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THE

GRAPE CULTURIST,

A MONTHLY JOURNAL

DEVOTED TO

GRAPE CULTURE

AND

WINE-MAKING.

VOLUME I.—1869.

GEORGE HUSMANN, Editor.

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THE GRAPE CULTURIST.

VOL. I. JANUARY, 1869. NO. 1.

SALUTATORY.

A happy new year to you all, who cultivate the noble grape, and make it into wine, whether North or South, East or West, on the Atlantic or Pacific coast. We offer you the hand of friendship from this, the geographical centre of American grape culture. "In Union is strength!" We therefore ask your assistance for a universal enterprise.

In assuming the editorial duties of a journal devoted exclusively to Grape Culture and Wine Making, the editors are fully aware that, to make such a journal what it should be, a medium for interchange of thought and experience of the grape growers of *our whole Country*, it must be conducted with the utmost impartiality. Our Country is so large, its climate and soil so varied, that the experiences of those, who follow the culture of the grape in different localities, must necessarily differ greatly. While therefore, we shall welcome with the same cordiality, contributions to our columns from Ohio and the Lake Shore, as from Missouri and Illinois; from New York

as from California; we hope they will be written with that charity for the opinions of others, which can alone make such an interchange of ideas pleasant and really useful. Our aim and object is the same in all parts of the Country; namely the promotion of grape culture and wine making, until it has attained that degree of perfection, of which we think it is capable.

Missouri, by its central position, and adaptability for grape culture, would seem to be the proper place for a journal of this kind. But it is not a *Missouri Journal* we wish to edit. Our aim is a higher one. We wish to make it an *American Grape Culturist*, in which *every* grape grower of this continent, from the Atlantic to the Pacific, can find something useful which will come directly home to him, and to which each of them is cordially invited to contribute his experience.

The senior editor has already so many pleasant acquaintances, personal and by correspondence; so many have

urged him to undertake something of the kind, that he cannot help but think he speaks to a circle of friends, when he addresses the grape growers of the country. Not a day passes but inquiries come to him about grape culture and wine making and handling, so that he is often at a loss to answer them all. It is for the purpose of giving the novices in grape culture the advantage of the best advice from all parts of the land, from the most competent men, that the "Grape Culturist" appears before its readers.

He brings to the task an experience of some eighteen years of practical grape culture, and that earnest love of the subject, which will make the labors of his position a pleasure instead of an irksome task. It has always been the cherished wish of his heart, to see our noble Country among the first in grape culture, and to see our wines appreciated in this and in other lands. He considers it a happy coincidence, to have as associate Editor a gentleman of such thorough practical and theoretical knowledge in wine making, as the former Editor of the "Weinzeitung" at Mayence, Mr. CHAS. H. FRINGS. It is in the making and handling of *wines*; even more than in grape culture, that our beginners in grape growing need instruction; and this information Mr. Frings is eminently qualified to give.

From our brethren of the press, we ask that kind indulgence and courtesy,

which is generally extended to new literary enterprizes, and hope especially to be welcomed to the tables of our horticultural and agricultural Journals, with that kindly feeling which characterizes those who are in daily communion with Nature and her choicest gifts. They are always welcome to cull from our pages, and hope they will extend the same privilege to us.

But our main reliance is on able *contributors*. While for the first number we must claim the indulgence of our readers, as the time was too short to get a sufficiency of original articles, so many friends have kindly promised to support us, that there will be sufficient original matter in future.

We expect to make our "letter box" a special feature of interest. All questions addressed to us on grape culture and wine making will be briefly and and concisely answered there. All questions relative to *grape culture* should be addressed to GEORGE HUSMANN, Hermann, Mo. All questions relating to wine making and its management, to CHAS. H. FRINGS, St. Louis, Mo.

With a hearty greeting to all our friends and co-laborers, we subscribe ourselves,

Their obedient servants,

GEORGE HUSMANN,

CHAS. H. FRINGS,

Associate Editors.

THE VINEYARD.

WORK FOR THE MONTH.

January, generally the dreariest and most inclement month of the year, is upon us, yet the diligent vintner will not find much time for rest, for he knows that he should do all the work he possibly can, before busy spring is upon him.

In our latitude here, it is often practicable, especially on southern hill-sides, to prepare the ground for new plantations. Clearings for that purpose may be made in timbered lands, by careful grubbing; for we would not advise to leave a single stump in lands devoted to Vineyards. They will be a continual eyesore and hindrance, and although it may cost a little more at the start, to take them out; yet it will not be near so expensive, as the time, worry and damage it will cost, to work around them.

If all your vines have not been pruned in the fall, this operation may still be continued, and cuttings made of the trimmings. But it is by far the better plan, to do it in fall, immediately after the leaves have dropped. If you have not time then, to prepare your cuttings, tie the trimmings into bundles, just as they are, and bury in sand. They can thus be kept fresh and green, taken out any time during the winter and trimmed and cut at your leisure; when the cold blasts of January howl around the house you can comfortably cut them in your shop or room. Pay strict attention, however, to keeping the wood *fresh*. You can not expect your cuttings to grow, if the wood has become dry. Cut close below an eye, with a sharp pair of

shears, or still better, a sharp knife; make your cutting about nine to twelve inches long, and leave about an inch above the upper eye or bud. Then tie in convenient bundles, say 250 in a bundle, and bury them in the ground, or in sand in the cellar.

In pruning your vines, do not cut too close to the eye, as the upper bud will often suffer from cold and the influences of the weather, if the cut is too close.

The diligent vintner need not loose a single hour on account of the weather, as he can always prepare enough of indoor work during the fine autumnal weather. And he *should* not loose any time, for he will find enough to do all the year round. His life, although most of the work is light, must needs be a busy one; and there is no avocation which we know, in which neglect and waste of time is so severely punished, as in that of the grape grower.

This will also be an excellent time to prepare the material for your trellis. If you have timbered land, get your posts ready. On a clear winters day, nothing is more invigorating, than to take the axe, and fell the timber for your posts. There is something cheering in the ringing sound of the axe, the toppling over of the tree, and at last the crash of its fall, scattering the snow and ice far around, which we have often experienced; and to which our heart yet returns with secret longing and pleasure. What if it tires; you will rest all the better at night.

The most suitable timber for posts is red cedar, next best, mulberry,

black locust, white oak, &c. They should be seven feet long, and three to four inches in diameter. For wire trellis, one post for every twenty feet is sufficient, taking the strongest posts for the ends of the row; and perhaps a smaller intermediate stake for the support of the wires. Many use stakes instead of trellis; but whoever tries both, will find that trellis is not only more convenient, but also much cheaper and consequently more economical. It is time, that the slovenly system of culture on stakes be entirely abandoned. Trellis saves labor and material in every way. You will find that you need not do half the tying on trellis, as the tendrils will take hold of the wires themselves; you can distribute the growth of the vine more evenly, can give it more air and light, consequently it will ripen more perfect.

Willows for tying your vines in Spring, can also be prepared during

this month. The golden willow is the best for this purpose, as it is softest, and forms an abundance of small branches. You can cut them out doors, take them into the shop, trim off the small twigs, and tie them into bundles convenient for tying.

Old and exhausted vineyards can also be manured during frosty weather. The best manure for vines is surface soil, leaf mould, and decomposed vegetable matter or compost. Animal manures should be used sparingly, and should always be well decomposed, before they are used. They create a rank, succulent growth, if used fresh, and also import a disagreeable flavor to the fruit and wine, making it also more liable to rot and mildew. Scatter the soil or manure over the surface, so that it can be turned under with the plough in spring. Heavy, clayey soils may be benefitted very much by a sprinkling with lime, gypsum, &c.

SOIL AND ASPECT OF THE VINEYARD.

In the present condition of grape culture, when nearly every day brings new varieties, it would be as absurd to give universal rules as it is absurd to search for a *universal* grape, one which will succeed in *all* locations over the length and breadth of this immense continent. We should be glad indeed, if our friends from all parts of the country will give us their observations and experiences on this point, naming varieties of grapes they have under culture, soil, aspect, success or failure. The requirements for each variety are so essentially different, that one side of the same hill will often produce entirely different results than the other.

We look upon those who speak of one variety of grapes as succeeding *everywhere*, with something of the same suspicion, with which we look upon the physician, who cures all diseases with *one* remedy; and hope to do our share in defending the public against quacks in grape culture.

But while it is true that no rule will apply *generally*, it is equally true that *general* rules will govern each location and State. Thus we find here, that the class of grapes belonging to the *Labrusca* or northern fox grape division, generally require a deeper and more clayey soil, than those belonging to the *Aestivalis* or Summer

grape division. The first prefer our Eastern and North Eastern exposures, with their deeper and richer soil; the second, the Southern and South Western exposures, where the soil is poorer, and more intermingled with lime and decomposed stones. We have seen the Catawba look yellow, and its leaves burnt by the sun, in aspects where the Herbeimont, Nortons Virginia, Cunningham, Rulander (so called;) in short all those belonging to the Southern class of the Aestivalis family, would stand the severest droughts without flagging, remain fresh and green, and bring their fruit to a perfection which it will not attain in deeper soils.

But while this rule will apply generally, these are exceptions of both classes. The Delaware, (in our opinion undoubtedly an Aestivalis) the Creveling, and the Alvey, all belonging to the same class, will according to our experience, do better either on the bottoms of our rivers and their Southern side, or on the deep rich sandy loam of our North Eastern or even Northern slopes. And we may add to them the Cassady, undoubtedly a *Labrusca*; and some of Rogers Hy-

brids, crosses between the *Vinifera* and *Labrusca*. In summing up, we find that all varieties liable to sunscald, should be planted on deep soil or on a northerly slope, while those "children of the sunny south" with a strong and vigorous growth, healthy foliage, and small berries; in short, the southern division of the Aestivalis class, will do best, and furnish the best wines, on Southern slopes, with warm limestone soil.

The soil should be loose and friable; if not so naturally, it should be made so by deep plowing. Only in land thus prepared, will the vines be able to withstand the vicissitudes of our changeable climate, and be healthy, alike in wet as in dry seasons.

This is *Missouri* experience. Will not our readers from other States give us theirs? Let us abandon the search after a *universal* grape; let us find out what will suit each locality and soil; and we will achieve more for the success of grape culture than can be done by all the Grecy and Longworth prizes, which, however well may have been the *intention* of the donors, will only serve to make "confusion worse confounded."

HINTS TO CONTRIBUTORS.—NATIVE HABITS OF OUR WILD GRAPES.

I most heartily congratulate the friends of the grape, North, South, East and West, that we are about to realize the important advantages which must needs result from the establishment, under the most favorable auspices, of a periodical, to be devoted

to the culture of the grape and the manufacture of wine.

I have, myself, long felt the want of an organ for grape growers, which should be limited to the encouragement of these highly important and growing interests; and should be the

means of disseminating, over our whole country, the combined experience of every section, in the cultivation of the grape, and its conversion into wine.

Feeling a deep interest in the eminent success of *The Grape Culturist*, I hope I shall be pardoned for expressing, just here on the very threshold of the enterprise, the hope that the contributors to its columns will become *a fraternity in this interest*—that we will, frankly and in good faith, bring and offer at this general exchange, for the common benefit, whatever of information or experience we may have gathered on our way-side; and that we will do this at all times, in a spirit that will redound to the credit, uphold the dignity of, and secure the greatest possible influence and usefulness, to its pages. I trust that we shall all scrupulously avoid offensive personalities, and even distasteful sarcasm.

The very end and aim of your periodical, would seem to discourage the idea of rude means being employed in their attainment. Our care should be to seek and give information, on a subject so interesting, refining and elevating as the culture of the most delicious, and beautiful, and useful of all fruits, in a manner that will “bless him that giveth, and him that receiveth.” So may it be!

I would not have ventured this hint, Messrs. Editors, if I had not of late years observed, in some of our valuable Agricultural and Horticultural publications, the frequent instances of violent departure, on the part of correspondents and contributors, from the common rules of

courtesy—impairing at once the force of their own articles, and the dignity, and therefore the usefulness of the periodicals.

May I venture one more hint, and I will vacate the chair of monitor.

I deem it really a matter of more importance than most writers seem to consider it, that practices, and results, and even opinions upon practical subjects, should, when laid before the public, *have the sanction of a name*. It matters not that we shall not generally recognize, nor be able to identify the name. It is something—it gives credence, and adds force to any contribution, to find a veritable name, and, therefore, a responsibility attached to it. Let us then have names affixed to *all* communications.

Now then, let us turn to the practical task of laying the foundation of what, I foresee, will become “ere many summers” a *text book* on *Grape Culture*. And, as I am willing to enlist as an humble co-laborer in erecting the structure; and deem it always prudent to give our first attention to the foundation of any erection, I beg to call attention to a few fundamental facts in *grapeology* (my patent) that should be interesting to all cultivators of the vine. As much as we may plume ourselves upon the extent to which we have educated nature, and constrained her to abandon her rude way of doing things; it may not be amiss to look back, now and then, and acquaint ourselves with her uncultivated habits. What then do we find to be the native habits and propensities of our different classes of wild grapes—Let us take the *Vitis Labrusca*—the family of *fox*

grapes, as we call them in Virginia. My observation, for a half century, over a large extent of country, has taught me that this family of grapes, including, among their descendants, a very large majority of our cultivated varieties, are *always* found either in bottom lands, or near creeks and spring branches—their roots plunging into the ever damp, and sometimes boggy ground, and their fruit, invariably, ripening in protecting and generally heavy shade; and moreover, it has been of very rare occurrence indeed, that a mildewed leaf or rotten berry has been seen by me. This class of vines is never seen on slope, or table land—never on thoroughly and deeply drained ground—never in the broad open field.

Now take the *Vitis Aestivalis*. This class comprizing nearly all of our cultivated grapes, not belonging to the former, is with very rare exceptions indeed, found on the lines of neglected wormfences—on hedges—by the road side, on the south-side and on the very skirt of the forrest—on naturally drained ground—in the broad sunlight; except that its fruit too, is very generally protected from the direct rays of the sun, both by its own leaves, and those of the bushes and trees, to which the vine always clings for support. With this class, too, we generally find the surface around the roots well mulched with fallen leaves, and revelling in the light porous mould near the surface. In many cases full crops are produced and matured by both classes; and I have no doubt that moderate pruning would secure generally a very full product.

Now I do not intend to draw from these premises, so broad inferences as to upset our whole practice in the culture and training of the Catawba, the Concord, Isabella, Diana, and Iona, and the other numberless descendants of the *Vitis Labrusca*; and recommend their being planted in swamps and on creek bottoms. Nor shall I contend that the whole family of *Vitis Aestivalis* shall be set to climbing trees, in hedge rows.

I merely bring these interesting and familiar facts (on our side of the Alleghany at least) to the notice of grape growers, as food for thought. Each one must give what importance he may to them; and each one, for himself, will decide whether they do not suggest some modification, and if so to what extent, in our system, in which two different classes of grapes, of such widely differing natural instincts, are subjected to the same rule as to location and treatment; and whether our treatment of either does not involve a rather violent departure from its natural habits, especially those of the *Vitis Labrusca*.

For myself, I will only venture at present, to intimate a doubt, whether we do not err, in insisting on preferring a gravelly or otherwise porous, and sometimes arid soil, with a directly Southern exposure. In the home of the Catawba, Concord, Iona *et id omne genus*, and whether displaying the fruit of either of these classes, especially the *Labrusca*, to the direct rays of a vertical sun, is promotive of the healthfulness and perfection of the fruit.

An experience, of nearly 40 years, in the garden and vineyard culture

of some 150 varieties of the grape, has certainly brought me to the conclusion, that the most perfect and most perfectly ripened bunches, of the *Vitis Labrusca* family are found where they are most thoroughly protected from the sun. With the *Vitis Aestivalis* family, the difference has not been so clearly established. With the *Vitis Vinifera* the reverse may be true; and it is quite possible that we have too closely adapted the rules, drawn from the habits and requirements of this European family, to the treatment of our widely differing American classes.

I purpose testing this matter by planting a Concord and Catawba, in such a location as I find is preferred by our wild fox grape; and subjecting them to moderate pruning; and will in due time report result.

JOHN J. WERTH,

Richmond, Va., Dec. 21st 1868.

(This very interesting communication, for which Col. WERTH has our sincere thanks, was received a week after writing our article "Soil and aspect of the Vineyard." The affinity of experience in Virginia and here will at once be apparent to our readers.—Ed.)

GRAPES AT SANDUSKY, ETC.

BY M. H. LEWIS.

The summing up of the Grape-Harvest at Sandusky and the Islands opposite us, for 1867, has been encouraging to most, disheartening only to the *unlucky* ones, and startling to all, in the many million pounds shipped and the many hundred thousand gallons of wine pressed. The vines were healthful, and the bearing wood for the coming season was stocky and thoroughly ripened.

The Spring of 1868 opened auspiciously. The rising sap disclosed life in every bud, and we were, and had reason to be, stout-hearted and sanguine.

Alas, at the closing days of June, none said, "All is well!" For just previously the rains descended; when most of our grapes were the size of small shot, the bloom but fairly shed, and with the rain fell deadness of air, murkiness and mildew. In brief time two-

thirds of our Catawbas, nay more, shrivelled and dropped.

Have we rightly named the blight—*mildew*? It was not apparent upon leaves nor wood. Only the tiny cluster or parts of it lost its bright green in a faint gray, and then speedily followed drying up of the berry and exorption from the stem.

The Concords on the Main Land, in good part shared the loss of the Catawbas. Elsewhere, on the Peninsula and the Islands, they did not to nearly such an extent. Dianas felt the calamity sorely, and all the varieties somewhat, here and there. None less perhaps, than the Delaware and Norton's Virginia.

What remained suffered little detriment afterwards, till Autumn set in. We dreaded the rot. July passed and the middle of August, and it came not—at least not to an extent worthy of

mention. There was vigor of vine, healthfulness of leaf and ripening of wood. Of course there was no over-cropping of Catawba and but little of Delaware, usually most blameworthy.

Disaster however still awaited us. September was fitful—too often raw, chilling. The late and the early grapes missed the customary glow of the sun to thicken and mature their juices. True, little damage finally resulted to the earlier varieties, save in delay of ripening. For the later, Catawba especially, the delay was dangerous. On the evening of the 8. of October came not a frost but a *sharp freezing*, hardening the moist soil a half inch, and full 2 inches well back from the shores. On the water's edge there was a firm crust. The crop suffered severe loss on the Peninsula and along the Main Land, as far as Cleveland eastward. Other cold snaps occurred in October, so that the best of the Catawbas at the height of the season were hardly up to the average of 1867.

Oechsle's scale told the vintners the truth and they wore a thoughtful eye. If, as Chronieler, I must be faithful at this stage, I will still be very brief and merely state my opinion, that, should the wine of this vintage prove *as*, or even more palatable, than those gone by, *Nature* cannot be charged with having sent *all* the saccharine through the roots of the vine, as stoutly claimed by some of our *purists* in times past.—A word upon the teachings of the year, before proceeding to the account of Varieties.

Now our people generally acknowledge the fearful mistake of planting one variety too exclusively. The vineyardist who had set Concord, Dela-

ware and Isabella as well as Catawba, reaped the reward of his foresight. The call is in consequence steadily increasing for promising varieties. The Catawba grape is no less a favorite, but it is deemed wiser to make as sure as possible of full returns every year.

Then as to wine, there is an upheaving of the good old ways. Some denied at first and long any excellence in *red* wines. But they grew upon the taste, the demand increased, and the skeptical forgot their skepticism. Another change is silently going forward. Isabella wine was not found popular. Mingled with Clinton, or Concord, or, better, with both in the wine-vat, the best judges say it is very good, and on all sides there are ready sales. There is expectation of fine results yet to be reached in this direction. The white wines also, in nicely adjusted proportions, form a mingled wine of real and commercial value.—The stock of last years wines was well exhausted early in the season, at fair prices. Since the crop has been considerable, the market has not been freer.

The gains this year, as generally hitherto, are in the hands of the provident,—the painstaking.

For success in grape-growing, we are taught by experience in this region, for most of the varieties to select a clay soil, admitting of drainage, to cultivate well and faithfully; to prune, train and fertilize with careful adaptation to variety and strength of vine. It is recommended to fruit the strong growing kinds mainly on the laterals. We dare not summer-prune *only* as it can be done fittingly with the thumb and finger. We *must* thin out the fruit if there is tendency to overbear.

Last Spring the wide area of Catawbas suffered some abridgement, supplanted by Ives, Norton's Virginia, and Delaware. The Spring of 1869 will witness still greater inroads and besides the three last named varieties, many of the Roger's Hybrids, including Salem, Creveling, Clinton, Concord, Hartford, Iona and Martha, will be planted.

I have not much to add upon varieties in detail.

THE ADIRONDAC does not yet afford encouragement to increased planting. He is really in luck with us who gets a crop.

ALVEY grows apace in favor. Too loose in bunch, and not productive enough.

CONCORD already touched upon. Curiously enough it was unusually good this season and its wine promises so well as to have won it much favor.

CREVELING is forcing the conviction upon everybody that it is the best early grape we have. Since it has been found that it will yield full bunches by alternating it with Hartford, there is more disposition to plant it largely.

CLINTON is attracting much attention. Old heads are surprised at the excellence of its wine of late, expressed after the mellowing of the frosts. Age adds largely to its value. The must here reached 90°.

Catawba dwelt upon fully above.

DELAWARE, long tried and ever true with us. On black soil, on clay, on sand, it yields abundantly delicious fruit. The thrip persists, on the Islands particularly, in damaging the leaves, but I *know* that sul-

phur faithfully used will drive off these little pests. It is effectual also against the mildew, which sets in slightly sometimes just before the fruit is all fully perfected.

DIANA loses ground here every year. HARTFORD as steadily gains ground.

Its extreme earliness recommends it for market and it ships without difficulty if gathered when fairly good but not fully ripe.

IONA has not yet made a good record in this vicinity save in isolated cases. Mr. Wires of North Bass Island had a fine crop for first year of bearing. His vines suffer no injury from the winters exposure. I am beginning to have hopes of ultimately seeing some success in favored localities. These no man can divine. Experience alone can safely point the rod. So far it has generally proved tender, slow of growth, non-productive and late rather than early.

IVES pleases generally by its thrifty growth, hardiness and productiveness. Its wine has warm admirers and as warm opponents. The must this year ranged about 80°.

LYDIA is a good white grape, reliable as most of the older sorts. It grows vigorously, ripens early, but sometimes mildews.

MAXATAWNEY presents many claims to favorable attention as a desirable white grape. Vigorous, excellent quality, but ripens too late for the country at large. (Early enough for the S. West.—*Ed.*)

MARTHA so far shows very promising characteristics. To the casual observer its foliage is strikingly like the Concord. In fact many who are growing it here, at first thought

they had surely paid \$3.00 apiece for the old Concord. Not yet fairly fruited here. Some vigorous 2 years vines bore a few clusters for me. These strengthened my conviction

from observations elsewhere, that the Martha is the white grape we have all been waiting for.

To be continued.

TWO WEEKS EARLIER.

"*Two weeks earlier*" than Catawba or Isabella, was thought quite a success; two weeks earlier than Concord, seems now to be the great desideratum of our grape growers. Our best Horticulturists even seem to be led away by the general clamor. Scarcely any new variety is introduced without extolling *earliness* among its prerogatives; and if we were to be guided merely by the reports we read in our leading agricultural Journals, we should reject all varieties which do not possess that great virtue of ripening *early*.

Is this correct?

It is very excusable, we admit, in those who do not enjoy the genial smiles of Spring before late in May and who early in September are reminded by nightfrosts of the approach of winter. Now, most of our Horticultural Literature is made up in locations where this is the case; and, what is more strange than this, our most prominent and successful originators of new varieties live and make their experiments in a climate which is not the proper home of the noble grape. There is E. W. Bull, the originator of the Concord, whose name every American grapegrower should remember with thankfulness—at Concord, Mass.; there is E. S. Rogers who, in our opinion, has done by far more towards a new era in grape-culture

than Dr. Grant can claim for himself,—at Salem, Mass.; there is Charles Arnold, whose new Hybrids are said to be even more valuable than most of Rogers'—in Canada!

They all are and cannot help to be influenced by their surroundings. Mr. Bull thinks to have gained a great result in his new seedlings, the *Una* and the *Cottage*, which are said to be from one to "two weeks earlier" in time of ripening than the Concord. Mr. Rogers, in his description of the Salem, which he recommends as the best of his Hybrids, says: "Taking all its qualities into consideration, *earliness*, hardiness &c." placing *earliness* at the head of the commendable qualities. They forget that there are locations where grapes ripen "two weeks earlier", nay four weeks earlier than with them, and where frosts are unknown before late in October. Some Horticulturists forget even that the noble grape is not a mere market-fruit, or a vegetable for the table of gourmands, who may pay an extra price for having out of season what they could have cheaper and better two weeks later—in proper season. They forget that the *Grape* has a higher destiny and serves a nobler, better purpose; that its juice is one of nature's choicest gifts—*Wine*! To develop its fine qualities for that purpose, its fire, aroma, bouquet &c. to

some degree of perfection, it requires the full blessing of a *long, warm* season. This is admitted in all European wine producing countries; it might still be doubted by some here, as ours is a different class of grapes. Among American grapes too, however, the Cynthiana and Nortons Virginia, the Herbemont, Cunningham, Rulander, Louisiana, Catawba and probably the Maxatawny are, in our opinion, *so far, the best as well as our latest ripening Grapes for Wine.*

We are aware that the Ives and Concord have been lately designated by the Longworth Wine Committee as the best Wine-grapes *for our whole country*; but this committee too had evidently more regard to hardiness and productiveness in our more northern states, than to the real good qualities of the Wine; and with Mr. Geo. W. Campbell we say: "we do hope to

see the day when such grapes cannot take such premiums."

Now, is it not reasonable to suppose that, with a view to real progress, to improvement in quality, we must look for varieties which, while possessing the vigor, the hardiness and productiveness of the Concord, Hartford and Ives, will ripen *two weeks* LATER rather than earlier?

If our eminent Grape culturists, our Allen, Arnold, Bull, Campbell, Rogers, and others have on their experimental grounds some very promising seedlings, the fruit of which they cannot fully test in their respective localities, on account of late ripening; let them send these to some good grape culturist in Missouri, to be tested here, where even their latest varieties will ripen "two weeks earlier."

BUSHBERG.

A VISIT TO MR. BULL.

(FROM THE AM. JOURNAL OF HORTICULTURE.)

Probably very few of the thousands who cultivate and derive profit and satisfaction from the Concord grape, are aware that its originator, Mr. E. W. Bull, of Concord, Mass. has not been content to stop in his experiments, or have any notion of the further great success he has achieved. Accompanied by a grape growing friend, we made our annual visit to him the last week in September of the present year. We found Mr. Bull as enthusiastic as ever, and as willing as ever to answer the thousand and one questions with which we overwhelmed him. An inspection of his vines showed that the heavy

and unusual frost of the night of the 17. Sept. had done vast mischief. Mr. Bull said that this was the very worst season he had known for over twenty years; the dull, cold weather and cold rain in May retarding the blossoming of the vines, and the early frost killing the leaves, and causing the berries to drop. Still, the grape crop was not a failure; for, at the time of our visit, they were cutting Concords for the Boston market, both from Mr. Bull's vines, and from the neighbouring vineyard of Capt. J. B. Moore. The Concords, however, we did not care so much for, having plenty at home; but we were

very desirous to see the new seedlings; and these were shown to us with the greatest freedom, and their merits and peculiarities fully explained and set forth. The Concord grape is certainly a vast improvement upon the native grape from which it came; but it is eclipsed, we think, by several of its own children. Two of these descendants are of especial merit, though perhaps not better than some which the originator does not yet choose to send out. Those two are the Cottage and the Una, the former black, and the latter yellowish green. They are both of excellent quality, and the Una is an especially attractive grape. It is claimed that the Cottage is two weeks earlier in time of ripening than the Concord, and that the Una is only a week behind its companion.

Among other seedlings which we saw and tasted, was a very large and excellent golden green grape, of fine size and shape, and doubtless a valuable acquisition; an excellent black grape, No. 51, we think, of extreme earliness; and a grape, or more than one, without perhaps a particle of fibrous centre or unripe pulp. Both Mr. Bull's visitors were very much struck with this yet unnamed variety. The flesh of this grape breaks down under the pressure of the tongue; and the seeds alone are left, just as is the case with the best foreign kinds. Another seedling was shown to us, with dark and somewhat astringent juice, from which an excellent port wine of great body and high character has been made. This is a grape from which we shall expect important results.

Various other seedling grapes were examined, tested and tasted by us, but

we cannot give all the details of their characteristics.

We saw enough to make us certain, that Mr. Bull has produced, from the tough, acid and inedible grape of our woods, several varieties that cannot help making a great impression upon all wine growers, as soon as they are disseminated and become better known. In some, the color has been changed from a lustrous black to a gold green with a pearly bloom; in others only a trace of the fibrous centre of the native is left; and in one, at least, this fibrous portion is completely wanting. New wine making characteristics have been introduced; the form of the bunch and berry improved, and all this has been done without giving up an atom of the native vigor and hardiness. (We believe Mr. Bull sacrifices without mercy any seedling that is not entirely hardy, and capable of taking care of itself through our severe winters.) The Concord grape useful as it is, is but one link in the chain, or, we may better say, a stepping stone to greater results. Mr. Bull's experimental garden is a sandy hillside. The soil is very poor in organic matter, being really no better than many of our hills and fields that support nothing but short pasture grass and a few pine trees; but it is rich in iron,—a fact upon which Mr. Bull lays considerable stress. The vine gets a little bone dust and ashes each year, but, we believe, no other manure. Mr. Bull believes neither in trenching or high manuring; and is even afraid to start his grape-seeds by artificial heat; lest he should do something towards enfeebling the plants

which these seeds will give. He continues to plant seeds of his best varieties every year; and we sincerely hope he may live long enough to fruit half a dozen more generations of seedlings, and that his future triumphs may surpass those of years gone by.

(In copying this very interesting report from the American Journal of Horticulture, we could not help thinking of the old adage "when Doctors disagree etc." Mr. Bull, the originator of the Concord, ascribes a great deal of his success with the vines to "iron in the soil." The Illinois ad interim Committee, in their visits to the vineyards at Vineland, on the Iron Mountain R. R. thought they had found the *cause of rot* in the Concord *there* in the *excess* of iron in the soil. Now who is right? We hope to do our share, through the columns of the Grape Culturist, of comparing experiences, and determining these important questions. Will our friends, by their contributions, help us? Give your experience freely, upon this and other matters, and we shall soon have "a little more light on the subject.")

Ed.

For the Grape Culturist.

Mr. Editor:

As your Journal is intended to be devoted to the Grape and Wine subject exclusively; and knowing the interest now felt in all the new seedlings that are already before the public, and others that are coming; I will comply with your request, and give through your columns the process and result of my Concord seedlings. About the time the Concord was introduced, I was among the first to get a vine; and was also favored with a bunch of the fruit before my vine bore. The seeds of which, together with some kindly sent me by Mr. Bull, were sown in a bed in the fall out

doors. The following Spring some dozen or more came up, which were allowed to remain until the following spring, when but five were found to be alive.

These were planted in ordinary soil without any trenching or particular preparation.

Three grew vigorously the first two seasons, while two grew more slowly.

They were numbered 1, 2, 3, 4, 5.

The third year after they were planted, when I examined No. 1 and 2, in fruit time, I found a very few little bunches (I think only two bunches on each) with but three small berries on each. One I tasted and was much pleased with No. 1, gave one berry to my wife (after whom it is named) who pronounced it excellent.

No. 2 (which was named Eva) was, we thought, inferior. This proved ever after nearly a barren vine; only bearing a few berries annually. I never deemed it of much value.

The following year all but No. 5 bore fruit, when you yourself saw the vines, and gave me your opinion of the No. 1, Martha, and No. 4, Black Hawk. Young America was full to excess at the same time, but they were not yet ripe.

They did ripen however, but quite late, and promised well, but unfortunately it had overdone the thing, and for the rest of the time it was under my care it never bore and seemed unable to recover.

Here I would advise no one to allow much of a crop on a seedling the first year of its bearing.

Black Hawk is ten days earlier than Concord, larger in berry and, I always thought, sweeter; but never

had an opportunity of tasting them at the same time; as by the time Concord is ripe, Black Hawk would all be eaten by the wasps and bees.

The 5th year, No. 5 (Macedonia) bore a few berries which pleased me very much, and may prove equal to Martha; but which the community will not be bothered with, unless it prove really valuable.

Mr. Longworth in correspondence with me years ago, stated that all feeble seedlings he discarded at once. This I would not advise, as this Macedonia, so feeble and delicate for several years, is now robust and vigorous. Many an old, hearty, and hale man, was sickly and puny in his youth.

I have other seedlings of the Herbe-mont class that promise well, but which have not fruited here in Mis-souri yet. Should they turn out well you will be advised of it.

But this communication is already too long perhaps, and therefore will be wound up. Yours truly

SAMUEL MILLER.

Bluffton, Mo., Dec. 1868

As Mr. Miller refers to us, it may not be amiss to refer to the description made by us in 1863, when we had the pleasure of enjoying his hospitality at Calmdale, Pa.; and tasting the fruit on the vines. It was the *first* description published of these promising seedlings, and induced Mr. Knox to purchase the stock of Mr. Miller. It would be useless to add anything in favor of the Martha. The grape as well as the wine have made their mark already, and those who wish to plant a *white* grape for *everybody*, will find it in this.

"No. 1. *Martha*. Originated with Sam. Miller, Calmdale, Lebanon Co., Pa. Bunch "medium, rather loose, shouldered; berry "medium, round, pale yellow, most berries "containing but one seed, somewhat pulpy, "sweet, juicy, slightly foxy, but not disagree- "ably so; vine, strong grower and healthy. "Ripens one week earlier than its parent, the "Concord.

"No. 4. *Black Hawk*.

"Same origin. Resembling the Concord in "bunch and berry, same color, but sweeter: "productive, strong grower and healthy. "Ripens a week earlier than Concord. Very "promising. Oct. 6. 1863.

It is pleasant sometimes, to fall back on old records, and particularly so in this case.

Editor.

GRAPES IN 1868, IN THE VICINITY OF HERMANN, MO.

The summer of 1868 was exceedingly dry, so much so, that in some lo-cations the vines suffered severely. This season of drought was succeeded by a month of extremely wet weather in September, so much so, that it caused some varieties to burst their berries, and the crop of the Concord especially, was somewhat damaged. But take it all in all, we think that the vintage of 1868 will be a very useful one; the wine is of good aver-age quality and promises to be fit

for use much earlier than the vintage of 1867, with its extremely rich grapes, and heavy must. But we will let the varieties pass muster, as they showed themselves this season, and hope that our readers from other States will also give us their experi-ence in a condensed form, to compare with ours, so that we may, by com-paring, learn from each other.

Adirondac. Although a good grape in quality, *when you can get it*, we confess we have not been lucky enough,

during our trial of the last five years, to obtain a good bunch of it. A slow grower and a still slower bearer *here*.

Allens Hybrid. Very good in *quality*, and, on account of the dry season, it had better bunches than usual. It is apt to mildew and rot, and cannot be recommended for *general* culture, though it is worthy of a place in an amateur collection.

Anna. Not worth planting here, unhealthy and feeble.

Alvey. Very promising in deep soils, rich river bottoms, etc. Excellent in quality, and will make one of the best red wines, but is apt to drop its leaves on southern slopes.

Arrott. Very similar to *Cassady*, but not quite as good, nor as handsome a bunch.

Baxter. Very large bunch, late in ripening, but may be valuable as a *wine* grape here and further south. Healthy and productive. Needs further trial.

Bloods Black. Always a full crop of very neat, compact bunches, of fair quality, somewhat better than *Hartford*, and ripens a few days later. Would pay well as an early market grape.

Concord. A very abundant crop, as usual. As mentioned before, the crop suffered somewhat from bursting of the berries, but still yielded a very abundant harvest, which promises to make a very good wine.

Creveling. This grape has not in our opinion, received the attention it deserves as a *wine* grape. Here, it always bears abundantly, is a medium grower, may be planted 6—6, on northern and north eastern hillsides, and makes an exquisite claret, inter-

mediate between the *Concord* and *Nortons* in body, and superior in flavor to either. Very fine this season.

Cassady. Another very good wine grape, which prefers northern slopes. Especially fine this year, not subject to rot or mildew, but will drop its leaves on southern slopes.

Clara. Very fine for the table, but rather tender for *general* culture. No amateur collection should be without it. Requires protection in winter.

Clinton. Suffered somewhat from late frosts, as it is one of the first to bloom in spring. Makes a good wine, intermediate between *Concord* and *Nortons*. An exceedingly rank grower, foliage subject to the attacks of the gall fly. Produced well in some vineyards, in others hardly any thing. Requires a good deal of room, and spur pruning on old wood, to bring forth its best results.

Cunningham. A very valuable grape for southern slopes, in this latitude and further south. As usual, healthy and productive, where it had been covered in winter; ripens late, and requires *here* protection in winter to secure a crop.

Cynthiana. Very fine again; produces a red wine superior to *Nortons*, always healthy, hardy and productive, makes our best red wine, but is very hard to propagate. Several spurious varieties have been sent out under this name, and the public should be cautious of whom they buy.

Catawba. This has done better this season, than ever since 1857, owing, no doubt, to the very dry season. A very heavy crop of fruit of fair quality.

Delaware. Has produced very

satisfactory results this season; but should be planted *here* in deep, rich soil, on North East and Eastern slopes.

Diana. Has done better than usual, but still far from satisfactory. The friends of this variety claim that it does best on poor clayey soil.

Devereaux. Where this grape will succeed, it is no doubt one of our best wine grapes. Our Southern friends especially should try it. It is somewhat subject to mildew, but succeeded admirably with us this season, and produced an exquisite wine. An *Aestivalis* for southern slopes.

Dracut Amber. Always succeeds well, but we confess that it is too foxy for our taste, and should be discarded, when so many better varieties can be grown.

Ewings Seedling. The admirers of the *Isabella*, (to whom we do not belong,) will find this an improvement on their old favorite, as it is an immense bearer, ripens more uniformly, and is of somewhat better quality. Always healthy.

Northern Muscadine. Always healthy and productive, but very foxy and drops from the bunch. The time when grapes of its class were acceptable, has gone by, we hope, never to return.

Exelsior. A seedling from Louisville, Ky. Worthless here, a shy bearer and of poor quality, with not a single good feature to recommend it.

Garbers Albino. Good in quality but deficient in bunch and berry. Unproductive.

Golden Clinton. Similar to Taylor, but a very shy bearer. Can hardly be recommended here.

Hartford Prolific. A very good crop, and for those who grow grapes for early market, it is one of the indispensables, as it is hardy, healthy, early and very productive. Can hardly be recommended as a wine grape, though fair wine may be made from it.

Hermann. This new seedling of Mr. Langendoerfer promises to be a valuable acquisition for this and more southern localities. It is hardy, healthy and very productive and promises to make an American Madeira. For more northern locations it would very likely be too late, as it is a few days later than Nortons.

Herbemont. Has produced a splendid crop again, for those who have gone to the slight trouble of covering their vines. One of the best and most reliable, for our southern hill sides, and will be a mine of wealth to our southern States.

(To be continued in our next No.)

THE VINTAGE IN GERMANY.

Reported for the Monthly Statistics by Mr. Edw. Goldschmidt, Wine Broker.

MAYENCE, November 1868.

As it is my full belief, that the Importers of our Wines in your country will take a lively interest in the result of this years crop and in the development of the 1868 wines, I shall try, to give them through the *Monthly Statistics* as exact and reliable a report, as my own experience and my knowledge of the present situation enables me to do.

The quantity produced may in general, be called that of a full average crop, especially in the Haardt- and Moselle-districts and in some localities of Rhine-Hessen; but it has been ascertained, that in those places which have given the most wine, the quality has somewhat suffered, while those vineyards, the production of which was not so satisfactory in regard to quantity, have compensated the proprietor fully by their excellent quality.

We have to pay particular attention to these places, as there may be found the best wines produced this year. It is Bodenheim, some parts of Nierstein, Hahnheim, Selzen, Mommenheim, Zornheim, Gaubischofsheim, Ebersheim and Harxheim.

The Wine of 1868 has in general to be classified amongst the better vintages, and its quality will range between those of 1859 and 1862. It is a smooth and pleasant wine; not too strong, but palatable and full of aroma. For the trade, the 1868 wine will be of more value than that of 1865, as the latter wants too much time to become ripe for bottling. The 1868 wine contains by far less gluten and will therefore become soon

settled and ready for market. It is one of the most useful vintages we have had for some time, and will be of great value to the trade.

On account of the large quantity produced in Rhinehessen, prices are there still low. Common qualities sell at fl. 170 to fl. 250—better qualities of wellreputed localities and vineyards at fl. 280 to fl. 400 per Stueck of about 300 gallons.

The Wine-market in the Rhinegau is in a similar condition. The 1868 wine of that country has not yet made so much progress in its development, but promises to be very fine; and some of it may be superior to that of 1862. Some of the lower grades in the Rhinegau have been sold at fl. 350 to fl. 450, but the finer growths are not offered in the market.

This most satisfactory result of this years crop did however not show any influence on the wines of 1866 and 1867—and they are held firm. The wines of 1866 are completely settled, and therefore in steady demand for the daily consumption, while those of 1867, on account of their low price, are a valuable article for the wine-merchant. 1866 are quoted at fl. 200 to fl. 700; according to quality, and 1867 at fl. 100 to fl. 300 per Stueck.

I think I have thus given a true picture of the present situation of our Wine-market. We have on hand a large stock of wines, more fit for the early use of the trade than any other vintage. May the Wine-merchants take advantage of this inviting condition of affairs.



THE CYNTHIANA GRAPE.

THE CYNTHIANA GRAPE.

(Synonym. Red River.)

Received by us in 1868, from Wm. R. Prince, Flushing Long Island, N. Y. Origin, Arkansas, where it was, probably, found growing wild. It is a true *Aestivalis* in all its habits, and resembles Nortons Virginia so closely, that it is impossible to distinguish the wood or leaf, although the bunch is generally somewhat more shouldered, and the berry more juicy and somewhat sweeter.

Bunch of medium size, moderately compact, shouldered. Berry below medium, round, black, with blue bloom, sweet, spicy, moderately juicy. Juice very dark red, weighs very heavy on the must scale, even higher than Nortons Virginia, and makes, so far, our best red wine. It has as much body, or even more so, than Nortons Virginia, but is of exquisite flavor, much more delicate than Nortons, and can safely enter the lists with the choicest Burgudy wines.

Vine, vigorous and healthy, productive, as sure in its crops of well ripened fruit *here*, as any variety we know; but very difficult to propagate. Since it bore its first crop in 1859, we have never seen a rotten berry on it. The fruit ripens some few days earlier than Nortons, and about a week earlier than Catawba.

Specific gravity of must, from 98° to 118°, according to the season.

While we can confidently recommend the *true* Cynthiana as the best grape for *red wine* which we have tried, we must at the same time caution the public against spurious vines, which have been sent out under that name. A variety resembling the Clinton, but not as good as it, has been sent out under that name, by unscrupulous parties from Illinois, and another variety, closely resembling it in wood and foliage, from Hermann, by parties who honestly thought they had the true Cynthiana. This spurious variety we have not yet been able to identify; it makes a darker wine than Nortons, of a peculiar flavor, resembling parched coffee, which may be useful for medical purposes, but does not resemble the exquisite wine of the *true* Cynthiana in the least. The close resemblance of the Cynthiana to the Nortons, and also to this spurious variety, will make it very easy for unscrupulous parties to deceive their customers; and as we introduced it here, and look upon it, so far, as our best and most reliable grape for red wine, we consider it our duty to warn the public against these deceptions.

Ed.

CALIFORNIA VINTAGE OF 1868.

We extract from a Correspondence of the *Journal of Commerce* the following interesting details.

The vintage of California this year is unusually fine. The vine-clad hills

never looked more luxuriant than now; never was there a greater profusion of luscious clusters at the fruitstands in the city. Great white grapes, much like the Malaga, their skins distended

almost to bursting; small ones, both white and pink tinted, besides the big Black Hamburgs, all are offered by common hucksters at prices which average about two cents for a double handful. The visitor from abroad is astonished, as he contemplates the power of a little money to command such exquisite luxuries for the titillation of the palate. The trophies which Joshua's spies brought from the promised land could hardly have surpassed in exuberance of juicy pulp the superb clusters to be had anywhere almost for the asking. Indeed, the autumn is favorable for giving a vivid impression in regard to the agricultural wealth of California, for then it is that Ceres and fair Pomona are bringing in a princely tribute to the husbandman.

California appears best in her spring attire, when the landscape is radiant with flowers, and crystal-waters, released from their ice-fetters, plunge down the mountains in an "infernal surge," or bespangle the valleys with lakelets and overflowing streams. Every energy in nature then seems endowed with a vital force. But later in the year the munificent rewards of industry are forced upon the attention, and are suggestive of other themes.

According to estimates of some of the foremost men in the trade the yield of wine in California this year will reach 5,000,000 or 6,000,000 gallons, to which must be added from 300,000 to 400,000 gallons of grape-brandy. Many new vineyards have come into bearing, and as the season has been favorable in all respects, both as to climate and exemption from vine diseases or vermin, a larger crop than

usual will be secured. All omens point to the certainty of California obtaining pre-eminence as a wine-growing country, the increase of production being from ten to twenty percent per annum. New vineyards are springing up in every part. An acre of good-bearing vines produces from 600 to 900 gallons of wine, and in addition, the offal or pomace yields enough to pay the whole expenses of the vintage, where the manufacture is rightly conducted. Common wine, six months old, sells in San Francisco at from thirty to sixty cents per gallon [coin], delivered. Sweet wines command double these rates.

The sweet wines, such as the Angelicas, Port, Muscat and Sherry, are made in the Southern countries, principally in Los Angeles. To make them, the fruit is allowed to hang on the vines until shriveled almost like raisins; then it is picked and crushed between rollers which do not crush the seed. The juice is partly fermented, the process occupying from three to eight days, according to the sweetness desired, as fermentation destroys the saccharine matter. When drawn off from the fermenting tubs into casks, an addition of from five to eight percent of brandy is made, from the same grape, to check decomposition. The wine is then allowed to settle from three to four months, at the end of which time the clarified product is drawn off, and separated from the sediment.

In California there are at least 30,000,000 growing vines, of which two-thirds are bearing. The cost of grapes averages from sixty cents to \$1 per 100 pounds, giving from six to seven gallons of wine, so that the cost

of the genuine article is less than fifteen cents per gallon. The principal growers are Kohler & Frohlig, Sainsevain Brothers, B. D. Wilson & Co., M. Keller, and the Anaheim Association, the latter a combination of German wine-growers, who have a village of fifty vineyards, and have all the advantages for successful culture which it is possible to derive from the experience of Europe. They have full confidence in the result of their efforts. The climate of California excels in this respect: that from the time the grape begins to ripen until long after the vintage is gathered, no rain falls to injure the crop. The best grape—that which is most in favor—is the old Mission or California grape, dark red and of medium size, originally from Malaga; also, the Muscatel and the Black Hamburg. Foreign and American varieties have been intermingled until hybrids exist in great variety.

One discouragement has been a glutted market, but growers relieve themselves by making brandy, which

finds ready sale, and new openings are promised in Europe, where American wines are coming into favor. Germany is sending a number of orders.

Some of the old mining counties are becoming almost wholly devoted to grapes, as at Colima, or Sutter's Mills (where gold was first discovered) which is now a perfect vineyard. In fact, all the foot-hills of the Sierra Nevada, including millions of acres of government lands, will make excellent vineyards. In Europe such lands would be valued at \$300 or \$400 per acre, while their present valuation is only about \$1 or \$1.25. All experience here proves that the hills are superior to the valleys. As to the quantity of lands suited to vineyards scarcely any limit can be assigned. Fifty millions of acres is a reasonable calculation. The best counties are Los Angeles, Sonoma, Placer, El Dorado, Napa and Santa Clara. A visit to the principal wine cellars of the State is worth making, though caution should be observed in taking samples.

THE RULANDER AND LOUISIANA.

What excellent wines so ever we may gain from some of our native grapes, we have as yet been unable to produce anything fully satisfactory to him, who was used to the refined *bouquet* of the Rudesheimer, Hochheinaer, Johannisberger etc. and thus, despite of all our efforts, the wine importation business is constantly on the increase, and the market for our home-made wines cramped.

Nearest to the Rhine-gan wines come those made of the Delaware and Herbemont, both, therefore, thought by many to be of European origin, the former to be a seedling of the German Traminer, the latter of some Suisse vine. However, in the *Rulander* and *Louisiana* we have the means of fully attaining the deliciousness of the famous Rhine-gan wines. Both are undoubtedly Europeans,

good growers, more or less healthy and productive, according to position and treatment, but requiring winter protection, which is a drawback.

They both belong to the widely diffused *Burgundy* family, which is remarkable for its intrinsic value, its many subspecies and their adaptability to different localities and climatical conditions, in contra distinction to some other varieties (Riesling, Gutedel, etc.) which hardly bear being transferred to other parts of the world. In Germany, some of the said subspecies are known as white and black Burgundy, Clavner, Rulander etc. in France as Pinneau, in Hungary as Tokay etc.

What we call here *Rulander*, seems to me not to be precisely the same vine known by that name in the neighborhood of Mentz, and must perhaps be traced to the vineyards laid out by the early French settlers on the western bank of the lower Mississippi, (Cape Girardeau and St. Genevieve,) though there is a saying that the *Rulander* was brought to the neighborhood of St. Louis by some Germans directly from the fatherland.

The *Louisiana* is not identical to the *Rulander*, though closely related to it, not distinguishable from it in growth and foliage, but its fruit being more compact and uniform and of perceptibly greater excellence.— Last fall I have sent *Louisiana* grapes to different parts of this country, and they were unanimously declared the most perfect produced here by open culture, superior to the Delaware and all others. I have also tried it for wine on a small scale, and it made a true Rudesheimer.

With me, on a position not peculiarly favored, the *Louisiana* proves to be so much more productive, and yielding so much nicer and more delicious fruit than the *Rulander*, that I have already commenced to root out the latter and substitute the former in its place.

The present tenderness of the *Louisiana* I hope to overcome by raising seedlings from it, having found that the seedlings of the not less tender Herbemont, if reared here, are as hardy as any of our native wines can be.

About the origin of the *Louisiana* there can exist no doubt. About 15 years ago I received from Mr. Thearel, of New Orleans, a bundle of the grape grafts designated as "White and Red Burgundy," but badly packed, so that I only succeeded to make two of the grafts grow. They proved to be quite alike, the grapes of a slate color, but the juice colorless and making a white wine like the so called *Rulander*. Mr. Thearel informed me that this vine had been imported from France by his father and planted on the banks of Pont Chartrain near New Orleans where it has for 30 years yielded abundant and luscious fruit.

In the first years with me the fruit was insignificant, which made me neglect the vine; it became more perfect year by year, till at present I have nothing more brilliant and excellent in my whole vineyard.

I will add that all of the *Louisiana* I have to spare, for the present, is already given away; but I hope to be able next fall to help amateurs to

scions, slips and seeds. With the latter I would like to see trials made in various parts of our country.

FREDERICK MUENCH.

(We must differ from our valued correspondent, as we have reason to believe both the varieties he describes, to be true native Americans, entirely different in foliage, wood and fruit, from all the varieties belonging to the *Vitis Vinifera* class. We hold that they belong to the Southern division of the *Aestivalis* class, of which the Herbmont and Cunnings-

ham may serve as types. In our next number we shall try to classify our grapes and invite our Southern friends especially to give us notes of origin, etc. of this very interesting class, from which we have reason to expect that our most valuable wine grapes will be produced.

Our friend is also mistaken in regard to the value of the Rulander. While the Louisiana will make a true hock wine, the Rulander will make a superior sherry, a wine perhaps more needed yet, than wines of the hock class, of which latter class we already have several.—Ed.)

THE PROSPECTS OF THE WINE TRADE IN 1869.

The price of all merchandise and consequently also of wine, is regulated by *supply* and *demand*. The more the market is supplied, the lower is the price, and the greater the demand, the higher does the article rise in price. The larger the production of wine and the larger the crop, so much larger is the supply, and when we take into consideration that the production of American Wines, expands from year to year, and that our last crop has been one of the most productive for many years past, (only in some parts of Ohio has the Catawba failed while in most other Wine-producing sections of the country it succeeded beyond all expectations,) there can be no doubt, that this year the supply of wine will by far exceed that of any previous period. Besides this, most of the European Wine Countries that send their Wines to America, have in the past season also had an exceedingly large crop; so that the American Wine mart will not experience any want from that source. It remains to be seen whether the *demand* will keep pace with the

supply; the former depends entirely on the amount consumed, while the consumption again depends more or less on the favorable circumstances of the consumers, in one word, upon the general aspects of business affairs. If business does not improve, we may almost to a certainty expect, that the consumption will not equal our increasing production and foreign importation, and that the prices of wine will come down. The question then will be, which will have to suffer most from the consequent abundance, the *domestic* or *imported* wines?

This will depend mostly on the quality and prices of the different wines brought into the market by one party or the other, and to this point we wish to direct the special attention of the producers of native wines. It is not sufficient that the native wines should be offered in the market *cheaper* than imported wines, but they must also be able to compete in *quality*. What does it benefit a wine producer here, for instance if he brings into market a mis-managed, foxy Concord wine at \$1.00 a gallon,

while petiotized wine from Cette or Montpellier, at \$1.75 per gallon, will suit even the taste of the most patriotic American better? For that reason it must be the earnest endeavor of every American wine producer to make the *quality* of his wines superior to imported wines; and really the native wines possess all the qualities to make them, under a rational management, take a frontrank among all the wines of the world. Those

only of the American wine producers whose aim is superior *quality* rather than *cheapness* can look forward with complacency to the competition of imported wines, and even under the most unfavorable circumstances, will always find a market for them, while the mis-managed Concord and Catawba wines, if they are the *purest* grape juice and offered at the lowest figures, will be unsaleable.

CHAS. H. FRINGS.

THE CHEMISTRY OF WINE.

By Chas. H. Frings.

In offering to our readers a direction for the manufacturing and treatment of wine, we are in the first place under the necessity of giving to them an accurate and minute explanation of the *nature* of wine, in order to furnish them a plain understanding about all the chemical phases of process which the juice of the grape undergoes, until converted into wine, as well as the *causes* and *effects* thereof.

FERMENTATION.

Generally we content ourselves by calling those most complicated processes to which wine owes its metamorphosis, *spiritous* fermentation. That term usually signifies that peculiar mode of decomposition of sugar in its process of dissolution by means of water, which first produces an alcoholic liquid; while at the same time a substance, either causing that very decomposition or at least participating in it, separates, which substance is called yeast.

To explain the remarkable action of yeast has puzzled chemists until

lately. Yeast is derived from a substance containing nitrogen, is found in the juice of a great many plants and is technically called gluten or albumen. Only by means of the microscope, (which threw new and unexpected light upon numerous controversies in chemistry) Chemists succeeded in establishing the fact that fermentation is a process of vegetation, and that yeast is a plant of the lowest degree, viz: a fungus, developing differently, according to the conditions offered to it for existence.

The Spores (germs) of that plant, invisible to our eye, are wasting in the atmosphere. They are everywhere. If attached to an object, from which they are allowed to gain the nutriment necessary for development and at the same time remaining exposed to the air, they produce mould; but if submerged into any liquid substance composed of gluten besides sugar the germs of fungus form into yeast-cells. These cells, drawing a part of the substance of their cover

from the ingredients of the sugar, while the contents of these cells consist of the ingredients composing gluten. By means of the separation of sugar, produced by the development of the cells, the sugar is transformed into alcohol, carbonic acid and other minor substances.

The yeast-cells consist of fungus-cells of a spherical or oval form putting forth small buds or sprouts, which, after having grown, separate from their mother-cell and shape into more yeast-cells. For a long while these yeast-cells were mistaken for a separate species of fungi, which were called "hormiscium," and, according to the fermenting liquid, discriminated as "hormiscium vini" (in the fermentation of grape-juice) and "hormiscium cerevisiae" (in the fermenting of malt-decoction.) Later researches have proved that yeast-cells are not separate plants, but the undeveloped parts of fungi which by changing their means of existence can be brought back to the original form of fungi. For as is known, in regard to many of the lower classes of fungi the existence of different ways of development as well of their form as of their mode of living, has been established; for instance, *that* fungus causing the ergot in rye etc., presents three phases of development, the highest of them with the name of "*claviceps purpureus*" concluding its course of life.

As to the practical manufacturing and treatment of wine, it is of the utmost importance to have a thorough knowledge of the natural history of the mould fungus, whose germs

are generally and collectively denominated "mycodermis." This knowledge will best be acquired by briefly surveying those very interesting experiments which have been so far made in connection with the appearance and the conditions of development of the "mycodermis."

Former experiments have already proved, that liquids, capable of fermentation and heated to the boiling point, when the air is excluded or admitted only through red-hot pipes or through concentrated sulphuric acid, fermentation will not take place, while on the contrary, wherever *unpurified air* has access, yeast-cells will soon be forming, and fermentation will follow.

Different organic substances, as for instance blood, the white of an egg, solutions of sugar, paste etc. have been heated in a glass globe up to boiling heat and when yet hot, the globe was lightly closed with wadding. These substances thus were preserved in the same state for months and years, although the air, filtered, it is true, through the wadding, had free access. By those experiments it was proved beyond doubt, that the formation of mould with fermentation merely originates from germs conducted or conveyed by the air and that those germs may be withheld by the use of wadding.

The contents of juicy berries (as grapes, strawberries etc.) contain no yeast-cells, and yet they are found in the pressed out juice, and can not be removed by the ordinary process of filtering, at least not entirely. If not heated up to the boiling point, even if the air is excluded, those juices begin to ferment. This striking fact is

completely explained by the discovery, that the surface of berries is covered with buds of fungi. The water, in which those berries have been washed, may be used as a ferment for fermentable liquids; as by means of the microscope numerous "mycodermis" can also be found in such water as well as in the scrapings, which can be removed with a blunt knife from those berries. The same fact exists with regard to the surface of all other substances exposed to the atmosphere. In all those substances, which we generally term "*bloom*," by means of the microscope, the existence of "mycodermis" can be proved; therefor the dust upon books is capable of bringing about fermentation. And this will explain, why the mash of brewers and distillers, usually brought to fermenting only by adding real yeast, sometimes begins to ferment spontaneously, which process by brewers and distillers is called the "wild fermentation."

However, not all the germs of fungus bring about fermentation; chiefly only the germs of the genuine mould-fungus, to wit: of the *Penicillium*, the *Ascophora*, the *Bacterium* and the *Mucor*, will bring fermentable liquids into fermentation. But these species of mould are spread enormously and therefor their germs are to be found nearly *everywhere*. On the other hand, the germs of parasite fungi (*Uredo*, *Ustilago*) productive of rust and blight, the germs of agaric (*agaricus campestris* and *excorticatus*) and of the several species of *Boletus* *never* produce yeast-cells. Of these cells only the germs of those fungi are productive, which —

like the several species of mould— dwell on decayed organic substances, while the germs of the genuine parasite fungi which thrive only on *undecayed* organic substances and, as is proved by rust and blight, exert a specific influence upon those substances, are unapt to produce fermentation.

An other experiment in regard to the vitality of the mould-fungus was made by boiling organic liquids for an hour in a partly filled up glass-pipe, corked up closely with wadding. In this way broth, boiled peas, solutions of sugar, honey etc. were preserved for from three to eight months. By the constant boiling in such a case the germs of fungus, either *in* the fermentable liquid or in the atmosphere *above* it, have been killed and the access of new ones had been prevented by the wadded cork.

Germs of mould in dry condition, corked up in a dry glass pipe hermetically closed up on both ends, will resist the heat of boiling water for hours without damaging their productive power, but brought into contact with the liquid itself or the steam of the same, the germs will be killed completely by the boiling heat.

From these observations the method of preserving fruits and vegetables in hermetically sealed boxes took its origin and its explanation. When first boiled, the existing germs of fungus will be destroyed, and by the second boiling or the placing of the sealed boxes in boiling water, it is designed to destroy those germs which during the process of sealing up may have succeeded in penetrating into the boxes.

To be continued.

Banquet of the Illinois Grape and Wine Grower Society, to be held at Peoria, Ills., Thursday, February 18th, 1869.

To this Banquet we cordially invite one and all, in and outside of the State, hoping that every one interested in grape culture, will take a lively interest in it. Each one should take one ticket at least; which are to be had at the office of the *Westliche Post*,

It is the first festival of the kind ever held in America, and a large attendance is earnestly desired.

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and for other varieties as they may be presented. For best Essay on preservation of grapes.

All samples should be sent in until the 12th day of February, to Mr. Louis Green, Peoria, Ill., free of expense,

together with schedule stating name and P. O. address of grower, name of wine, and quantity sold during the past three years, together with quantity still on hand, and minimum price realized. How many vines cultivated, and how many planted during this year.

Only by answering the above questions can we obtain an insight into the extent of Grape Culture in this State. It is the intention of the Committee of arrangements to distribute money prizes amounting to between 5 and 600 Dollars.

Jacob Littleton, Theobald Pfeifer,
W. Kneer, Joseph Studer,
F. Streibich, G. A. Messinger,
Louis Green.

Committee of Arrangements.

We take pleasure in noticing this effort of our Illinois brethren to advance the cause of American Grape Culture and Wine making, which is certainly a step in the right direction. They are mistaken however in calling it "the first festival of the kind ever held in America." There was a festival of that kind, and even of a more general nature, held at Hermann, Mo. on the 8th day of May, 1868, to which competition from all parts of the Country was invited, and at which a large number of grape growers were present. We hope the festival will be largely attended.—Ed.

Our readers will excuse the delay in this, our first number. As we were determined to spare no efforts to make it creditable to us, and useful and pleasing to them, the publication has been unavoidably delayed. In future, we intend to be at their firesides promptly, and hope to be always welcome. Edts.

EDITORS' LETTER BOX.

R. M. HIGGINS, JACKSON, EAST FELICIANA PARISH, LA.—We do not see why grape culture should not succeed in your State and section. The Concord has succeeded well in the South, wherever heard from. We would advise you to try Herbemont, Cunningham, Nortons Virginia, and Rogers No. 1. As it is an entirely new branch of industry, of course you must experiment, as every body must, who tries grape growing first, in a location, where it has not been tried before. "An ounce of experience is better than a pound of advice" in your case.

B. F. EASTMANN, OGDEN, KANSAS.—We plant *here* Herbemont, Cunningham, Rulander, Nortons Virginia and Cynthiana on southern slopes with limeston foundation, but west will also answer. Concord, Catawba and all the Labrusca class will do better on eastern slopes, with deep, rich soil; for north eastern and northern exposures, we would recommend Delaware, Creveling, in short *all* varieties whose leaves are apt to sunburn.

The nature of your soil would seem favorable for vineyards, but you cannot be positive until you try.

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THE GRAPE CULTURIST.

VOL. I.....FEBRUARY, 1869.....NO. II.



STUDLEY & CO. ST. LOUIS

THE CUNNINGHAM GRAPE.

By the Editor.

Origin somewhat doubtful at present, but our valued correspondent, Col. Werth, has promised to send us an article on its origin and early history, which we shall be happy to publish in due time. It belongs to the same class as the Herbemont, Lenoir, and many others peculiar to the Southern States, and which we believe are either a division of the *Aestivalis*, peculiar to the Southern States, or hybrids of the *Aestivalis* and *Vinifera*.

Bunch, compact and heavy, medium, shouldered; berry small, brownish black, juicy and vinous; free from disease; vine a strong grower, healthy, but requires slight winter protection.

Especially adapted to our southern hillsides, as it seems to revel in light limestone soil; ripens its fruit late, but makes one of the most aromatic and delightful wines we have, resembling some of the finest Hungarian wines. Specific gravity of must, from 90 to 112°, according to the season.

The Cunningham grape is worthy of much more general attention than it has received so far, especially for our Southern States. An acquaintance of over 12 years with this variety, enables us to speak knowingly, when we recommend it for general trial in southern locations, and limestone soils.

THE VINEYARD.

WORK FOR THE MONTH.

February, that month of transition, of changeable weather, is a trying season for the vintner, at least for us here. For our Southern friends, we suppose it is the season for planting, we here can very seldom think of it before March, and our Northern friends will be still later. We hope that both, North and South, will make due allowance for the difference in location, when they scan our work for the month, and freely give us their experience, for the benefit of their neighbours.

Preparing the ground for spring planting may still be continued, as well as clearing, making trellis, etc. Should

the ground be open and dry enough, it may be plowed, so that it can still have the benefit of decomposition by frost. For old ground, take a common two horse plow, with a good span of strong horses or cattle, and plow as deep as you can get with it. This may be followed by what we call the subsoil stirrer. We have used those manufactured by John Deere, Moline, Ill., with great satisfaction. It will generally require four horses, or two yoke of oxen, at the subsoil plow, to get deep enough, say 16—20 inches. The old practice of trenching with the spade to the depth of 2—3 feet and reversing the soil, is now, we think,

generally abandoned. And with good reason. It is unreasonable to suppose, that the grapevine, one of the most sun loving of all plants, should be content to bury its roots deep in the cold earth, far removed from air and light. Stir the soil deeply and thoroughly, mellow it as well as you can, but leave it in its natural position as near as possible.

For steep hillsides, we have found the hill side plow, with reversible mould boards, very useful, it will save a great deal of unnecessary travelling, as the mould board can be turned at the end of the furrow, and you can return the same way.

For newly cleared ground, you will need a large breaking plow, with a coulter to cut the roots, and of course more power. Stir every inch of your soil thoroughly. The old practice of planting in ditches, or worse yet, in square holes, whereby sink holes were formed, has, we trust and believe, been entirely abandoned.

Cuttings may also be planted the latter part of the month. For these, choose a rich and deep piece of soil, plow and pulverize it thoroughly, plant in rows, about 2 to 2½ feet apart. Stretch a line over the length of the bed, and if your cuttings are nine inches long, take a spade and make a horizontal cut along the line, opening the upper part by moving the spade backwards and forwards. Now let one push down the cutting, so that the upper bud is even, or rather a little below the surface of the soil,

the cuttings to be placed about an inch apart in the row. Then press the ground firmly against the cuttings with your foot,

If you can mulch the ground with old saw-dust, spent tan, or leaves, you will find it a great advantage, especially in dry summers, as it will keep the soil moist and loose.

Although it is of great advantage to get your ground prepared early, either for planting vines or cuttings, as they will have made a good start before dry weather sets in, and become established; yet we would warn you against working your soil when it is too wet to pulverize well, as it will then harden and bake. Rather wait days, nay weeks, than to work your soil when wet. Years of diligent labor will not bring it back to its normal condition, and if your vines are planted in the mud, it will bake around them, and you can not expect them to thrive. For this reason, we would strongly advocate Fall planting, as the ground is generally in excellent condition to work, and your vines will be ready to start in Spring.

The warm days of the latter part of February are also a good time for grafting vines, as the stock and scion can callus and form a union, and you can secure a full season's growth for the graft. Grafting the vine is a very simple process, and although we would not advise it on a large scale, as some authors have done, yet it is a great help in testing new varieties. For particulars, see the article of grafting.

PROPAGATION OF PLANTS.

To propagate, is the continuance or multiplication of kind by generation or successive production, whether in the animal or vegetable kingdom; each being governed by the same immutable laws. There is not in nature any spontaneous generation, but all come by *propagation*.

Nature abhors self fructification; hence variety. If we wish to multiply varieties, we cross fructify. If self fructification always takes place, then each variety of plant would reproduce itself, by its seeds. So great is the abhorrence in plants to self fructification, that florists wishing to continue any rare development, put their plants for seeding under the most strict servility, compelling self fructification. When variety is obtained, we continue it by multiplying in the use of the buds, or node and internode. If we examine into the organization of seeds and buds, we find them physiologically very nearly alike; each containing within itself the same conditions of heat, moisture and light to start germination and continue after growth. In the seeds imbedded and attached to the cotyledonous lies the embryo plant, with its stem and indurated pointed radicle. During germination, the cotyledonous act the part of the spongiola, and furnishes the radicle with proper food until it has pushed itself into the soil, when it takes up the liquid plant food surrounding it. Immediately the stem elongates, pushing the cotyledonous above the surface, when their office changes to that of the leaf, gathering in gases and light, reflecting the heat

ray, absorbing and transmitting the chemical ray, by means of which the food is assimilated for the further growth and maturity of the plant. In the bud, node and piece of the internode, which is used for the purpose of a continuance of variety by propagation, are found the same conditions as in the seed. The cambium, by the action of moisture, heat and chemical light, hardens, and, uniting to the alburnum, organizes into root, which push themselves through the liber and epidermis, or outer bark.

The joint internode to which the bud is attached, supplies, as do the cotyledonous, the embryo stem and leaves, encased within the outer scales, with food until the bud has burst into growth, when, if the cutting has been under proper conditions, so that the roots have previously been formed, it receives food from them and continues its growth.

If we observe the operations of NATURE in the spring time, we find that the roots are at work, pushing themselves in every direction, collecting food and sending it forward at a temperature too low for the growth of the bud. During this time, the nodes are elaborating and preparing the food received, for the development of the bud, until the temperature of the surrounding air has increased to a degree not endangering the tender leaf. From the observations thus made, we are now better prepared to understand more clearly the general principles to be observed in all the varied manipulations of successful propagation of plants, whether the

cuttings are made from ripe wood or the green succulent stem.

As the grape is claiming a very large share of attention at the present time, in the remaining part of this article, I will take up the first and most important item in its propagation; viz; the kind of wood, its treatment preparatory to going into the propagating house, or out-door border.

The wood from vines carrying and perfecting a crop of fruit, is not good; for too much of the vital energy is required to perfect the seed for reproduction; the cambium is too thin, the bud not strongly developed, nor the wood so perfectly ripened as to be in condition for successful propagation. Neither from the wood of young vines, nor from those of the first season transplanted; nor from vines that have been under successive propagation and grown under glass. If taken from the wood of vines at the season of transplanting, there is a want of vigor induced by the energies of the vine being required to recover from the effects of transplanting. The vines produced from continued propagation of the wood from such young vines, makes a continued remove as to the earliness of fruiting. The wood of vines of continued propagation and growth under glass, although it is *well ripened* from the length of season artificially given it, yet it becomes more a plant of the tropics, from the moist, high temperature, in which it is grown, rendering the leaf thin and delicate, the wood, bark and roots of necessity become equally delicate and tender, illy prepared in its structure to withstand the more rigorous climate to

which it is subjected when planted in the vinyard or garden; lingering along, hoping to live, but having to yield to the "king of terrors" unable to withstand the vicissitudes of its uncongenial climate. Thousands of such vines have been sent out, highly recommended by growers, to the very great disappointment, delay and pecuniary loss of purchasers. The wood from strong, healthy vines, carrying fruit of the earlier part of the seasons growth, should be used to make strong, vigorous plants, as then there will be less small, unsaleable plants produced, giving better satisfaction to the planter, a better character and greater remuneration to the propagator. It would even be much better for those pursuing the business of producing vines, to grow a plantation expressly for wood for propagation. The time for cutting the wood for propagating, is as soon as the leaf has ripened and fallen, before the cold winds have evaporated the sap, shriveling the cambium and wood. As fast as cut—and that better on a cloudy, damp day—the wood should be gathered and put into a damp cellar or moist room, cut into such lengths as required for use, *not allowing the cuttings at any time to get dry*, by letting them drop into a bucket of water as fast as cut, packing them away in sphagnum or white pine sawdust, moistened so as to pack in the hand, in boxes nailed close.

During winter the boxes should be kept in a moist cool room, temperature from 45° to 50°, until within some two weeks before wanted for use, when they may be removed into a temperature of 55° to 60°, commen-

ing' at the former, gradually, during the time, increasing to the latter; when the process of change in the cambium will move a little faster, so that not unfrequently the points of

the roots will have begun to show themselves through the epidermis, and around the base of the cutting, when they are taken out for planting.

To be continued.

B.

THE SCUPPERNONG GRAPE AGAIN.

The following communication is from "E. M. W.," Craven Co., N. C., and we are glad to hear about the Scuppernong from one who apparently knows something about it. The statement made in our article published in November, that "the fruit is said to be produced on spurs two or more years old," was made with great misgivings. We could not understand it, but as the point was made by several Southern writers we put it guardedly—"is said." Mr. Van Buren, in his pamphlet upon this grape, repeats the statement in almost the same words. Mr. E. M. W. says:

"My knowledge of that vine and its seedlings is derived from an intimate acquaintance with my vineyard of 56 acres, planted exclusively with the Scuppernong (white) and the Thomas, Flowers, and Mish seedlings (black or purple).

"It is true that 'the fruit of these vines drops from the cluster when ripe,' that is, *thoroughly* ripe, at which period the berry is very tender and juicy, with thin, soft skin, while its stem has become quite brown and slightly shrunken.

"The fruit is said to be produced on spurs two or more years old, and not, as is the case with other varieties, upon shoots of the current season."

It is hard to conceive how any one at all acquainted with the fruiting habit of the vine could have committed such a mistake. The fruit is invariably borne upon *shoots*, though these shoots are frequently quite short and grown from short canes—due, I think, to the immense amount of wood carried by an unpruned vine, six, eight or more years old. I practice both summer and winter pruning on my vines with entire success, and 'that the vine is not shortened in by pruning' generally, 'but allowed to spread over a large space,' is due firstly to the fact that the health of the vine does not seem to suffer thereby, and secondly to the prevailing notion that summer pruning will kill the vine. This opinion had its rise in the days when men thought an empty whiskey, vinegar, or molasses barrel a good enough vessel for the must; their smoke-house or corn-crib an excellent place to keep wine; and when sugar in large quantities, whiskey or brandy, was necessary, to prevent acetic fermentation.

"So far north as Hammondsport, N. Y., I doubt not that the must was deficient in sugar. Indeed, I think with you that the Potomac River is the northern boundary of its successful, certainly its profitable, culture. But here, in Eastern Carolina, the must of

ripe grapes needs no sugar, to make a fine table or medicinal wine.

"I have had the fresh must of the Scuppernong grape, strained through linen, to register 96° on Oechsle's scale, at 60° (Fahr.) temperature. — (The must tested at Hammondsport was from grapes raised in North Carolina. — Ed.)

"The most sanguine friend of the Scuppernong has never supposed that in it he had a grape equal to Riesling or Pineau; but what in simplest justice we may all claim is, that in the Scuppernong we have a vine hardy and prolific, entirely free from mildew, rot, and the depredations of insects, giving us a never-failing crop of grapes, capable of a dry or sweet wine, either white or red, of fine body and bouquet."

We clip the above from the *American Agriculturist*. Our friends of the South are turning a great deal of their attention to this grape, and some efforts have even been made to introduce it in Missouri. We can only say,

that although it may be all they say in their climate and soil, it would prove utterly worthless here, and in this we speak from actual experience. In 1848, Mr. Charles Tenbner brought a number of Scuppernong vines, of both the white and black varieties, from Alabama, and planted them on the place where we now reside, in the neighbourhood of Hermann. These, although they would winterkill every winter, down to the snow-line, have several times produced fruit, and one of the original vines is still growing in the vineyard. When we thought the fruit ripe, in October, we have tasted it several times, and confess that we found such a strong *bug* flavor, and so little sugar in it, that it seems absurd in the extreme to us, to speak of acclimatizing it *here*, or making wine of it. It may be very good at the South,—for climate and soil will work wonderful changes—but it will never do here. It needs a warmer climate than we have here, to develop the good qualities they speak of, and must always remain a Southern institution. And we even believe that our Southern friends, when they have tried those varieties so eminently southern, Herbemont, Cunningham and all of that class, will become convinced that they are better than their present favorite, the Scuppernong, even with them.—Ed.

GRAFTING THE VINE.

By the Editor.

Although we would not recommend grafting for converting whole vineyards into other varieties, as some authors do, yet it is of great use to the grape grower, and every one should know how to perform the operation. It is of use

1. For the facility with which new and rare kinds may be tried and fruited, by grafting them on strong stocks of healthy varieties, when they will often make wood of from 10 to 20 feet, producing abundance of propa-

gating wood, and generally fruiting the second season.

2. Varieties which on their own roots may be feeble, weak growers will grow much stronger by grafting them on healthy thrifty stocks.

3. In these days of many varieties nearly every vineyard contains some which have proved worthless. By grafting these with some valuable variety, they may be made very useful.

4. For the facility by which vari-

eties which are very difficult to propagate, can be forced under glass, by grafting on small pieces of roots, when nearly every one will grow.

Having convinced ourselves of its utility, let us now turn to the operation itself. Let not our readers suppose, however, that the grape grafts with the same ease, as the apple and pear, and will take as readily. The inner bark or liber of the vine is very thin, and great nicety and care is therefore required to effect a perfect junction, as the successful operation depends entirely upon this. To insure success, the vine must be grafted under ground, and as the operation should be performed at a time when the ground is yet cold, the work is far from agreeable. We have generally had the best success in March, although we do not doubt that sooner, even in February, would be as well. If you intend to graft only smaller vines, say one half to one inch in diameter, a strong pruning knife for cutting the stocks, besides a spade or spading fork for digging around the vines, some strips of basswood bark, and a sharp penknife for cutting the scions, will be all you need. If the vines are larger, say one and a half to two inches through, you also need a grafting chisel and wedge, the first to split the stock, the second to open the cleft, while inserting the scion, and a hammer or wooden mallet for driving them. The implements as well as the scions, are most conveniently carried in a basket.

Dig away the ground around the vine you wish to graft, until you come to a smooth place to insert your scion, then cut it out with a sharp knife, and

insert one to two scions, according to the strength of the vine, as in common cleft grafting, taking care to cut the wedge on the scion very thin and long, with shoulders on both sides, making the inner side of the scion somewhat thinner, so that the inner bark of the scion and stock are closely fitted together. The accompanying cut shows the shape of scion. Press the scion down until its shoulders rest on the cut of the stock. In strong stocks, which hold the scions firmly, no tying is necessary, but in smaller stocks, you can tie firmly with basswood bark, wound around the whole length of the cut. No grafting wax is needed, but you can press the moist earth firmly on and around the wound, and fill up the hole to the top of the scion, with well pulverized earth. We prefer two eyes on the scion, although when grafts are scarce, one is sufficient.

Examine the stock from time to time, and remove all wild shoots and suckers which it may throw up, as they will rob the graft of nourishment, and enfeeble it.

Others prefer to graft in May, when the leaves have expanded and the most rapid flow of sap has ceased, keeping the scions in a cool place, to prevent the buds from starting. The operation is performed in the same manner, and may be just as successful; but the grafts which have been put in early, have the advantage of several weeks growth over those put in later, and will generally ripen their wood better.

Mr A. S. Fuller, in his *Grape Culturist*, recommends to perform the operation in Fall, preventing the graft

from freezing, by inverting a flower pot over it, and then covering with straw or litter. He claims for this method:

1. That it can be performed at a time when the ground is more dry, and in better condition, and business not so pressing as in spring.

2. That the stock and scion have more time to unite and form a complete junction during winter; will therefore start sooner, and make a more rapid growth in Spring. It is certainly worth trying; and the flower-pot will form a good protection even to the scions inserted in Spring, against frost, and the rays of the sun in Summer. Mulching with chaff, sawdust or litter will be found beneficial in any case; in short, any protection from the direct rays of the sun.

Our friend Samuel Miller, a very successful operator, cuts his scions to a simple wedge, without shoulders, but we rather think that shoulders to the scion are of great benefit, as many times the scion will unite with the stock at the shoulder. Another mode of operation is, instead of splitting the stock, to make a slanting cut from the side of the stock, and inserting

the scion, cut to a simple wedge. This latter method we have practiced very successfully as the fibres of the bark on the scion and the stock will fit upon each other better.

If any of our readers should know of still better methods, we should be obliged to them if they would send us their *modus operandi*.



GRAPES IN 1868, IN THE VICINITY OF HERMANN, MO.

(Continued.)

Hettie. Has proved unproductive, and entirely unworthy of culture with us so far.

Huntingdon. Has also been disseminated as *Australian*. It is a true

native, of the *Cordifolia* class. Healthy, hardy and productive, very early, resembles *Clinton* somewhat, and may become valuable as a wine grape, and *only* as such.

Iona. Produced better bunches than usual, although it suffered somewhat by rot. Ripens very unevenly, and we can not recommend it, although it is a grape of better quality than Catawba.

Israella. Also rotted less than usual, ripens about a week later than Hartford Prolific. We can see nothing in this grape which should induce its general culture *here*. It is *only good*, not first rate; not equal to Creveling, which ripens at the same time, and is healthier and more productive.

Ives Seedling. Four years old vines of this variety produced a very full crop for the first time. It does not seem to be an *early* bearer, but to bear profusely when older. Fruit very indifferent in quality, perhaps less foxy than Hartford, to which vine and fruit bear a very close resemblance. We have tried hard to discover the many excellencies which our Ohio friends claim for it, in the fruit and wine; but although we have tried at least twenty samples of the latter from Ohio, and some made in Missouri and Illinois, we can not make anything more out of it than a fair claret. The best sample we have yet tasted, was made by Mr. Conrad Eisenmayer, at Summerfield, Ills. What induced the Committee to award this the first premium of the Longworth prizes, as the best wine grape for general cultivation, of our whole Country, we are at a loss to imagine, as it has hardly been fruited outside of Ohio and Kentucky. In our opinion it is not as good as the Concord *here*, either for wine or for the table.

Logan. Hardly worthy of cultivation, although healthy and productive, as the bunch is too loose, and the quality below par.

Louisiana. Excellent in quality and always makes a fine wine, but is somewhat subject to mildew in some locations, while in others it is perfectly healthy.

Lenoir. Very good in quality, but *very* unproductive. Not worth cultivating *here*.

Maxatawney. Healthy, hardy, productive, and of the finest quality *here*. It ripens early enough for us *here*, and makes an excellent white wine, mixed with the Martha.

Martha. Did very well again, and promises to be *the* white grape for every body; as its parent, the Concord, has proved among the black grapes. It is not subject to any disease, as far as we know, but it also suffered somewhat from bursting of the berries, and should not be allowed to hang too late. It has again made an excellent wine, especially if mixed with Maxatawney in equal parts. May *here* be safely recommended to every one.

Mary Ann. Very early, and very productive as usual. For those desiring a *very* early market grape, this can be recommended, as it ripens 4 to 5 days earlier than Hartford, and is a better looking bunch.

Nortons Virginia. A very good, regular crop as usual. It is as reliable as anything we have, but has made its reputation already far and near, so that nothing further need be said of it.

North Carolina Seedling. A very full crop of large, handsome fruit, not

subject to disease, and a good market grape. The initiated can also make a good Muscatell wine of it. Ripe a few days before the Concord.

Ontario. We think this identical with Union Village. The vines are somewhat tender, and the fruit often ripens irregular. Should not be cultivated, we think, where Rogers No. 4 and 19 can be grown, as they are of much better quality, and just as large and handsome, also much more productive.

Perkins. As usual, healthy and very productive, though foxy. For early marketing, this is desirable on account of its pretty lilac color, and as it ripens as early as the Hartford, it will form a very pleasing contrast with this.

Pauline. Does not seem to succeed here; mildews badly, and is very unproductive.

Rebecca. Of good quality, as usual, but too poor a grower and bearer to be recommended, except as an amateurs fruit.

Rogers Hybrids. These are gaining in favor rapidly, and from among them we may yet expect to get some of our most valuable grapes. So far, only one of them, No. 15, has shown any disposition to disease. All the other numbers we have fruited so far, have been healthy.

No. 1. Here a very valuable grape, as it bears profusely, has shown no sign of disease, and ripens its handsome fruit perfectly. It would be a very fine late market grape, as it is already good when the berries are yet white, and looks then much like the white Malaga. It also makes an

excellent white wine, and is altogether a desirable grape for our latitude.

No. 2. Also very good, large black berry, perhaps more desirable as a wine grape than a table grape, as it is highly aromatic, and somewhat tart and astringent.

No. 3. Very fine, ripens as early as Delaware, and, we think, as good in quality, but the berries are double as large. Has proved healthy and productive, and will be very valuable for those who desire a first class table as well as wine grape.

No. 4. Nearly as large and as good as Black Hamburg, very productive, and is, we think, the most desirable table and market grape of all we know.

No. 8. Late, red, very productive and good, similar to No 1, except in shape, as the berry is round. Has the same Muscat flavor, would be valuable for late keeping, and will, we think, also make a good white wine.

No. 9. To those desiring a substitute for the Catawba, this will be an acquisition. It is of about the same size and color, better in quality, productive, healthy and hardy, in short, an improved Catawba, without the faults of that old standard variety; and makes an excellent white wine.

No. 12. Similar to No. 9 in flavor and color, but larger and later.

No. 15. Handsome, but proved again subject to mildew and rot, and with a peculiar scratch in the throat, which we do not fancy.

No. 19. Similar to No 4, but not quite so good, nor does it seem to set fruit as regular as it.

No 22 or Salem. This, Mr. Rogers calls his best variety. It fruited for

the second time with us, and the bunches were much larger and finer, than the first season. In quality, it is even better than No. 4, and should it prove as productive and healthy, will certainly be one of the most desirable of all our grapes.

These are all of the Rogers we have fruited, although we have nearly all of the numbers growing.

Rulander or St. Genevieve. This has again produced a medium crop of most excellent fruit, and although it will not bear *big* crops, it makes up in quality as a wine grape, what it may lack in quantity. It makes an excellent wine, closely resembling Sherry, to which the Committee at Cincinnati unanimously awarded the first premium as best light colored wine, and numbered it 100 on their scale, being their ideal standard of perfection.

Taylor. This little grape has gained many friends this season, as the crop was satisfactory both in quantity and quality. It seems that the vines require age, and spur pruning on old wood, to make it produce well. Give the vine plenty of room, and plenty to do, i. e. prune it long, and we think it will bear satisfactory crops when it is three or four years old. The wine made of it, more closely resembles the celebrated Riessling of Germany and the Rhine, than perhaps any other of our American varieties, and will always command a high price with wine connoisseurs.

To Kalon. Suffered again from mildew and leaf blight, and although good in quality, is not worthy of cultivation here.

Telegraph. Many writers contend that this is identical with the *Christine*. We are unable to say whether they are right or wrong; but the *true* Telegraph, as we have it, is certainly one of the most promising early grapes we cultivate. It is as early as the *Hartford*, but much superior in quality, and promises to become not alone a good table fruit, but also an excellent wine grape. The writer in *Colmans Rural World*, who has found it so "abominable foxy" and a "most unmitigated humbug" certainly had not the *true* Telegraph. This, although evidently a *Labrusca*, has very little, if any, foxiness, is a medium sized, compact bunch, berry round, black, juicy and sweet, but very sprightly, and so far has proved healthy, productive and hardy. We shall give an illustration of it in one of our future numbers. Should be tried by every one.

Thompsons Red Seedling. I received scions of this, from Mr. Thompson, originator of the *Mo. Mammoth Blackberry*. He claims it to be a seedling of the *Concord*; but this bears such a striking resemblance to some of *Rogers Hybrids*, that we can hardly think it a true *Labrusca*. Had but a few scattering bunches this season, and we wait for next season, before we can give a decided opinion about it.

Union Village. see *Ontario*.

Venango or Minors Seedling. Always healthy and productive, but too pulpy and foxy to be of much value.

Editor.

BLUFFTON WINE COMPANY.

CONDENSED STATISTICAL REPORT.

For the Grape Cultivist.

The company was organized in the Spring of 1866, and incorporated under the General Laws of the State, August 18th of the same year.

The corporators and first Board of Directors were Geo. Husmann, Thos. C. Fletcher, Francis Rodman, John McNeil, Isidor Bush, Emil Preetorius, Arnold Krekel, L. D. Morse, C. W. Waite, Phil. Weigel, Jno. S. Cavender, J. S. Hyde, and Wm. H. Maurice.

The authorized capital stock of the company is \$150,000, divided into 1500 shares of \$100 each; up to Dec. 1st ult. 1105 shares were issued, of which

4 members hold	1 share each,
9 " "	2 shares "
10 " "	3 " "
3 " "	4 " "
57 " "	5 " "
4 " "	6 " "
2 " "	7 " "
2 " "	8 " "
33 " "	10 " "
3 " "	12 " "
2 " "	15 " "
1 " "	20 " "
2 " "	30 " "
1 " "	50 " "
1 " "	75 " "
1 " "	101 " "

A stock dividend of 15 per cent having been declared last year, these 1105 shares amounted to \$93,925.00, of which sum \$91,347.50 have been collected by the Treasurer, leaving the amount yet delinquent \$2,577.50 and the number of shares yet obtainable 395.

As soon as the company was organized, it purchased 1772.32 acres of land, situate in the S. W. corner of Montgomery and the S. E. corner of Callaway Counties on the Missouri river. Average price paid per acre \$15 $\frac{1}{2}$. The lands were surveyed and partly divided into 20 acre tracts for tenants; 40 acres were laid off in Town-lots for a village, to form a nucleus and trading-post for the surrounding settlement. 52 Town-lots have been sold for \$3810.50. Several buildings have been erected by actual settlers. A store, hotel, post-office, etc. are doing a thriving business. A ferry connects the place with the South shore of the river, distant 1 $\frac{1}{2}$ miles from Morrison Station on the P. R. R.

Fifteen leases have been granted by the company; more will not be given out at present. The tenants are furnished with a dwelling house, \$150 cash, vines for planting 6 acres, wire and trellises, etc. In return they have to give the company one half of the produce of their vineyards. The leases run ten years. The company has built 14 tenant-houses, at a cost of \$9000. Out-houses, stables, fences and other improvements were added by the tenants. Over 50 acres are now cleared and planted with vines; 13 $\frac{1}{2}$ acres will bear this year. 10 $\frac{1}{2}$ acres are trellised, 4 $\frac{1}{2}$ with Cedar, 6 with Oak and Walnut posts.

The vineyards embrace the following varieties:

- 395 Alvey,
- 307 Cassady,
- 390 Clinton,
- 7833 Concord,
- 556 Cunningham,
- 2576 Creveling,
- 3830 Delaware,
- 146 Hartford,
- 959 Herbemont,
- 100 Huntingdon,
- 42 Iona,
- 998 Ives,
- 329 N. C. Seedling,
- 12,481 Nortons,
- 2,425 Rogers No. 1,
- 571 Rogers' Hybrids [other No's.]
- 123 Taylor,
- 160 Telegraph,
- 165 Other Varieties.

Total 34,386 vines.

About 30 acres more will be planted next Spring. Last years vintage amounted to about 1300 gallons. A yield of about 15,000 gallons can be expected this year. To establish a trade for the sale of their wines and to aid in a general introduction of pure native wines into the American market, the company has rented suitable cellars and offices at St. Louis, and will there soon open its Wine-Depot under the superintendence of Mr. Frings, a celebrated wine-chemist from Germany.

The Propagating Department forms another branch of the company's business. The propagating-houses, consisting of six houses, each 100' long by 10' wide, and three propagating-pits, sixty feet long by ten feet wide, furnished with all modern improvements, cost the company \$20,000. The sale of plants propagated by the company was commenced in

the fall of 1867, and has increased satisfactorily from season to season. Customers, with but few exceptions, (where the company was not to blame) were well pleased with the plants furnished them. The department has supplied the tenants with the plants required for their vineyards, has realized from the sale of plants \$9418.62 and has \$10,525 worth of plants on hand, besides 2741 Clinton vines set out for grafting purposes. Seven hands are employed in the department at present, at wages varying from \$35 to \$50 per month, and arrangements are now being made to grow a quantity of plants the coming season, sufficient for filling orders to any extent in the fall.

Not the least interesting feature on the company's grounds, is the Experimental Vineyard, for testing new varieties of grapes. 564 vines, including 68 different kinds, can there be examined by the visitor. Large additions will of course be made annually.

Besides the buildings enumerated, the company has erected two large houses for the use of its officers, a commodious stable, black-smith shop, well-house, etc. etc.

The property of the company was inventoried on the 1st day of December 1868, as follows:

Value of land	\$40,000.00
Buildings & Tenant-houses	36,100.00
Prop. Dept. & Exp. Vineyard	16,616.62
Vineyards	23,000.00
Mules, Horses & Fodder	600.00
Office Furniture	179.80
Amounts outstanding	6,218.45
	<hr/>
	\$122,713.97

The Treasurers last annual report

foots up the total receipts of the company from its organization to Nov. 30th, 1868, at	\$110,566.14
Total Expenditures	108,865.67
Cash on hand	1,700.47
Liabilities	9,221.92

The following new Board of Directors was elected at the annual meeting Dec. 3d 1868:

Geo. Husmann, President,
Henry T. Blow, Vice-President,
Isidor Bush, Treasurer,
Wm. Wesselhoft, Secretary,
Wm. D'Oench, Wm. L. Ewing,
Henry Reitemeyer, Conrad Fink,

Henry Michel, L. D. Morse,
Phil. Weigel, H. T. Mudd,
Dr. B. F. Edwards.

Alwin Straubel is the company's propagator at Bluffton.

Chs. H. Frings, Superintendent of Cellars at St. Louis.

Orders for plants and catalogues must be addressed to Wm. Wesselhoft, Secretary, Bluffton, Mo.

Orders for wines and price-lists thereof to

ISIDOR BUSH,
Treasurer,
 No. 22 S Main street, St. Louis, Mo.

THE IMPORTANCE OF ASSOCIATION FOR GRAPE GROWERS.

We publish above the condensed statistical report of the Bluffton Wine Co. and hope that the secretaries or officers of similar associations will oblige us by furnishing their reports also.

We have long ago become convinced, that associations of our grape growers can do much more in bringing American Grape Culture to that perfection, and give it that importance, which it properly deserves. "In Union is strength." It is much easier for 5, 10, or more grape growers, to build a cellar in common, to treat their wines in a thorough and scientific manner, under the supervision of a skilful man, and afterwards to market them, than it is for a single individual, however skilful and enterprising he may be.

They can also assist each other in preparing the soil, can buy the suit-

able plants, teams, etc. in common.—In short, the expenses will at least be lessened one half, and the profits will be greater, because they can furnish wine of better quality, can afford to send out agents to sell them, and can thus realize better prices. They can always more readily command the best help, if wanted; in short, the advantages are innumerable, and will at once suggest themselves to every thinking mind. We have all the natural facilities for becoming the first among the grape growing nations; we must and will *export* our wines at no very distant day; but we must not be content each to plod along in his own small way; we must strain every nerve, use every advantage in our power; and this can only be done, if we *unite* to make our country what it

should be. Let us drop petty jealousies, let us become cognizant of the fact, that the world contains room for us all, and we will soon teach Europe to look with respect upon the wine trade of America.—ED.

THE VINTNER'S FESTIVAL IN ITALY.

Everywhere, as far as the dominion of the Vine is extended, the approaching Autumn will stir up the people to a brisk and happy movement, and will spread a general merriness all over the Vinelands. A magical being gifted with the wings of an eagle, waves over the vineyards of the Rhine, the Moselle, the Danube, the Aiaud, the Gironde, down to the shores of the Mediteranean. On the bare slopes of the hills, where all through the Summer only the industrious vintner was seen, laboring hard under the burning rays of the Sun, there appear now troupes of happy men and women, to gather in baskets and butts the matured grapes. Thundering guns carry the Echo far away through the narrow valleys. When darkness sets in, bonfires send their light from all the hill-tops, and lightening rockets rise to the sky. You would think, that all distress and misery has been forgotten, and left behind in the lowlands; and that mischief and trouble could find no room in the free and airy regions of the mountains. The Spirit of fire, characteristic to the wine, from the moment, when the grape is plucked; until the goblet, filled with the aromatic liquid, invites you to drink, never will disown its divine nature.

Everywhere this happy excitement bears the character of a festival, and

this has been since the time when the cultivation of the grapevine was first introduced. Thousands of years ago the Hebrews, the Greeks and the Romans celebrated the days, when the precious fruit was gathered, like holidays. But the further you go to the South, the more attractive and the more characteristic you will find this festival; while it appears as the most antique and picturesque of all in the vineyards of Italy, known for such a long time for her full bodied, so called Grecian Wines, for her sweet, dark red Falernian, her lovely Chiarelli and Lacrimae Christi from the foot of the Vesuvius, her fiery Syracusan, Muscatel, Hercolesian &c.

The vintage festival comes in the latter part of September. It is the remains of the old Roman Dionysia, purged of its ancient licentiousness, but retaining many of its most salient peculiarities. Bacchus alone, of all the antique gods of Rom, still survives. In some places on the confines of Naples, his *oscilla* or masks are still hung upon the trees in the vineyards for luck, and songs are sung in his praise and masks are worn in the procession of the vintage as in the ancient days.

Bacchus also has survived in the speech of the people, who still swear '*per Bacco—per Dingi (Dionygi) Bacco,*' and the ancient *bassi relievi* representing the triumphal return of Bac-

chus after subduing India, show that this festival was the ancient prototype of the modern procession of the vintage.

The season of the *vendemmia* is one of great gaiety and license—a sort of saturnalia, where the tongue wags as it likes—and all sorts of liberties are taken without offense.

When '*Liber Pater*' gives us good wine, '*per Bacco*.' shall we not be gay? The season is come—the grapes strain their ripe purple skins with wine—they have drunk in the sunshine of all the summer—they hang in transparent clusters on the rustic vines, seed swimming in rich juice—and the time to pluck them has come. They must not be too luscious in their ripeness, or our wine will lack its flavour. So, to the vintage—and, *Viva la vendemmia*.

In we go among the vines. There are scores of picturesque peasants plucking grapes, with laughter and jest, and heaping them into deep baskets, till their purple bunches loll over the edge, moist with juice. Some are mounted on ladders to reach the highest—some on foot below gathering the lowest—and the heavy luscious baskets, as soon as they are filled, are borne off on the head to a great basket wain, into which they are all tumbled together. The very oxen themselves seem to enjoy it, as they stand there among the vines, decorated with ribbons, and waiting to bear home their sunny freight of grapes. The dogs bark, the girls slip out of the arm of the swains, who threaten them with a kiss. Stalwart creatures they are too, and able enough to guard themselves; and the smack

of their hand on his cheek or back I willingly yield to him, though he takes the practical reproof with a good-natured laugh, and is ready to try his luck again when a chance offers.

When the last butt is filled, the vintage procession takes place. This ceremony, in which the classical and modern are sometimes ludicrously mingled together, is always amusing and picturesque. If you would really see it in its perfection, you must go into the mountain towns, far from the city, for old customs are sadly dying out in the highway of travel, and the last fifty years have done more to obliterate the traces of classical customs in modern Italy, than previous centuries had been able to effect.

The procession is led off by the handsomest *contadino*, who is chosen on the occasion by his comrades to represent *Bachus*. He is crowned with ivy and vineleaves, mixed with grapes, and carries in his hand a *thyrsus* twined with flowers, leaves and ivy, and tipped with a pine cone as in the ancient days. Instead of panther's or leopard's hide, a fresh, well-dressed sheepskin, stained with wine to represent its spotted skin, is swung from his shoulder. After him come groups of women, clad in their richest costumes, bearing on their heads baskets of grapes, and boys carrying clusters of grapes in their hands. *Bacchante* and *Lena*, waving cane poles entwined with vine sprays, or beating their ringing tambourines, their guitars or mandolines, and pumping their accordions, flock all around him. Then come great *carri*, richly adorned with bright colors, leaves and flowers, tugged along by creamy

oxen stained with grape-juice; and, finally, the procession closes by a fat fellow, with a stuffed paunch, on a donkey, tricked out in some humorous way, and his face stained with grapes, who represents Silenus—and grimaces, sings, and rolls about on his long-eared beast, pretending to be drunk. This is the wit of the town; and he has full license on this occasion to abuse everybody, and scatter his sarcasms right and left. Outside are *contadini* with lighted torches, who wave them to and fro as they go, after the antique custom—and with beating of tambourines, mandolines and guitars, screaming with horns, wild Campagna songs, shouts of *Viva Bacco!* [*Evoe Bacchus!*] *Viva la Vendemmia!*—dancing, grimacing and gesticulating, the joyous procession makes its festive way along the fields and town. The very *parocco* himself does not disdain to enter heart and soul into the festival, and join in the procession.

Monthly Statistics.

PORTUGAL.

According to the last advices from Oporto, the wine-crop in Portugal has given in 1868: 48,000 pipes, about equal to that of 1867, while the production of 1866 amounted to 60,000, of 1865 to 65,000, of 1863 to 83,000

pipes. This enormous deficit, together with the superior quality of this year's vintage has brought about numerous transactions at elevated prices.

It is also reported that at this moment a speculative excitement prevails in the province of Valencia, and that a good number of agents, sent by French houses, are noticed among the many buyers.

As it appears, the troubles now ruling in the peninsula do something to depreciate the wine-prices, and speculation, always alert, will take possession of the this year's splendid product of the vineyards in these countries..

Monthly Statistics.

RUSSIA.

The *Messenger du Don* says that no man can remember such an abundance, in regard to the vintage, which could be compared with that of 1868. The vintners are afraid, that they will not have time enough to pluck and gather the immense quantity of ripe grapes before frost sets in. The fruit is sold in Razdory at the fabulously low price of from 5 to 10 Kopeks (4 to 8 cents gold) for one pud (40 pounds). The market in Novotcherkask is every day crowded with carts, loaded with grapes.

Monthly Statistics.

FOR THE GRAPE CULTURIST.

MR. EDITOR:—Is the importance of thinning out the fruit of the vine, duly considered by the majority of cultivators? I think not.

From close observation; and even sad experience, the subject, in my opinion, calls for much more attention than is usually given.

In young vines this is particularly the case.

Such vigorous and hardy constituted varieties as the Concord, may stand it to a considerable extent; but even they will eventually suffer.

This fault is not only to be found in the vineyards of the novice, but can be seen almost everywhere in charge of those who know better.

This then being admitted, the next question is, how shall it best be remedied?

Shall we prune so much shorter, so as not to leave more wood than the vine can carry safely through, or leave more wood, and then thin out the bunches?

The latter, in my opinion, will be the best; for by the first plan, we get our fruit too much crowded, and throw too much force into the young canes for the following years bearing.

My impression is, that when a vine is pruned to what would seem about right, the pinching out of every third bunch, at the first operation pinching back, would be the best method.

I would leave but two bunches on each bearing shoot; and in some instances but one.

We all know that the forming of the seed of any fruit, is the heaviest tax on the plant.

This being the case, do we not give considerable relief when we diminish this tax one third?

I think we would be safe in counting on having the same weight of fruit in the two bunches, as if three are left.

Some years ago we grew Concord bunches in this way, which the Committee, who were to test them, would not admit to be that variety until they tasted them.

For marketing table grapes, this is particularly practicable. For instance—let one man take Concorde that will average three fourths of a pound to the bunch, and another have them as usually grown, my word for it, the large bunches will command nearly double price, not only among the wealthy, but the masses.

What is your idea about this? My object in writing this is to elicit experience from others, and your own opinion in particular.

Jan. 30. 1869

Yours &c.

S. MILLER.

(Our friend is right, in attaching a great deal of importance to the thinning out of the fruit. The overloading of the vines has ruined many a promising vineyard already. The best course, in our opinion, is, not to prune too short, as many buds will not even start; but do the first pinching early; just as soon as the young shoots are long enough to discern where the embryo fruit bunches will be, then rub off all weak shoots, and reduce the number of bunches, as he suggests. In a future number, we will describe it fully, and hope to be able to convince our readers, that this is the proper course to grow the best of grapes.

Editor

HISTORICAL SKETCH.

Till the eighth century the cultivation of the vine remained in Germany in a sluggish and unsatisfactory condition, and no attempts were made to improve it till the time of Charlemagne, which great emperor's capacious mind, was capable of looking far into futurity, and who interested himself as much for small things as for more important subjects. In his "capitularies" are to be found directions for planting vineyards, treading out the grapes, fermenting the must, and and preserving the wine in wooden casks, which latter does not appear to have been in use till then, and was therefore a salutary innovation and improvement, in the art of making wine. He further ordered that the best qualities should be deposited in his imperial cellars, and the inferior sorts to be sold to the public; and in order to distinguish the houses in which wine was sold, he directed that a wreath or hoop of leaves, or a bush should be suspended as a sign over the door. This custom exists to the present day in many wine-producing countries. The writer of these lines has seen them very generally used in Greece, in Italy, in Germany, and in the south of France, whilst in many of the smaller towns in Portugal they hang over the doors of the "vendors" and "estalagem" the top shoots of a young fir tree. It is therefore no wonder that, as this distinctive sign of cabaret has become so widely spread, it should have given rise to the popular saying that "good wine needs no bush" in various languages.

Thus in French it is *a bon vin il ne faut point d'enseigne*; in Italian, *al buon vino non bisogna frasca*; in German, *Guter Wein bedarf keines Kranzes*; in Spanish, *el vino que de bueno no ha menester pregonero*; in Portuguese, *o vinho com nao precisa pregoeiro*; in Latin, *vino vendibili hedera suspensa nihil est opus*; and in modern Greek, *na deixi kalo krasi den-draki perissos einai*.

The Emperor Charlemagne first introduced the vine at Ingelheim, on the Rhine, which now produces some of the most esteemed descriptions of hock. It is related that, looking out from his castle in Palatine, he observed that in the month of March the sun had sufficient power to melt the snow on the western bank of the Rhine, and that the trees were coming into leaf, and the pastures covered with verdure, at a time when on his side of the river all vegetation was suspended, and the country hidden under its winter covering snow. Putting two and two together, he conceived the idea of planting vines there, which he had immediately put in execution; the forests rapidly disappeared, and for a thousand years the slopes of the mountains have been used as vineyards, the cuttings being originally brought from Hungary, Italy, Spain and Burgundy. The same enterprising sovereign also possessed a large and fertile district in Burgundy planted as vineyards, which still retain his name to this day. As usual among the other sovereigns of that period, he always showed him-

self generous to the Church, and bestowed large gifts of vineyards on the monasteries and the dignitaries of the Catholic faith, who made good use of his generosity for their own interests. Thus it is recorded as an historical fact that Jean de Bussieres, Abbot of Citeaux, near Avignon, in consideration of a present of thirty casks of Beaune and Chambertin he made to Pope Gregory XI., was rewarded by that pontiff with a cardinal's hat.

According to ancient chronicles the vine was unknown at Bingen in the year 842, and in 1074 the first wine was made at Ruedesheim. Bishop Rudhart, of Mayence, founded a monastery in 1106 on an eminence on the right bank of the Rhine, which was called after him Bishopsberg, or the Bishop's Mountain; but as it was consecrated to St. John, it subsequently became better known as Johannisberg, now the valuable property of Prince Metternich. The monastery was destroyed by the savage Margrave Albrecht, of Kulmbach, A. D. 1552, and though subsequently rebuilt, it was finally ruined by the fanatical Swedes under Gustavus Adolphus during the Thirty Years' War. In 1641 it came into the possession of Hubert von Bleymann, Treasurer of the Empire, who paid for it 30,000 florins. The present castle was erected in 1717 by Prince Adalbert von Walderndorf, and in 1816 it was bought with all the vineyards, covering an area of sixty-five acres, by the then Emperor of Austria, Francis I., who made a present of the whole of the valuable property to his prime minister, the first Prince Metternich, as a reward

for his talents and brilliant services. On the death of the late Prince it was inherited by his son, the present proprietor.

The almost equally celebrated vineyards of Steinberg were first planted in the year 1177, in the reign of the Emperor Barbarossa (or the Redbeard) by the monks belonging to the adjoining convent of Elberbach, who obtained great celebrity for their system of colonization, and who with their own hands transformed a tract of eighty acres from an unreclaimed wilderness into a well-cultivated and flourishing vineyard, which they surrounded with a stone wall of solid masonry twelve feet high.

On the whole there is good reason to believe that quite as much attention was paid in former times to the cultivation of the grape as at present, though perhaps it was not conducted on such scientific principles as in the present day; nor were there formerly exhibitions of wines or associations of vine-growers for the improvement of their produce. There can be no doubt that the best wines were made before the Reformation by the ecclesiastics of the different monasteries, whose object was not so much to make a large quantity as to make it good, it being principally intended for their own consumption. This is abundantly proved by the ancient records and chronicles still extant, which invariably praise the quality of the "theological wine," and speak of it generally as the best made. After the Reformation, when so many monasteries were secularized, their vineyards came into possession of laymen, whose interest and ambition was to

make the greatest possible quantity, as the consumption, and consequently the demand was greatly on the increase; by the ravages committed by the raw soldateska during the Thirty Years' War were so enormous, that in the little duchy of Wuerttemberg alone no less than 40,000 acres of vineyards were devastated and laid waste.

In the middle ages the *Raths Keller* or council cellars, played a conspicuous part in all affairs of importance in Germany. It was there that the "Fathers of the City" met, to deliberate on affairs concerning the prosperity of the commonwealth, and always over a jorum of wine. But not only was it the council chamber, but also the state reception room, where foreign potentates or their ambassadors had audience of the magistrates on their passage through the city, and where they were regaled with wine as a welcome. In the same manner as in these days, in firing salutes, the num-

ber of guns is regulated by the rank of the person so honored, so formerly the measure of welcome was indicated by the quantity of wine set before the guest. Thus, at Lubeck a king, in travelling through or visiting the city, was regaled with 16 stubchens of hock (for hock appears to have been the favorite wine in those times); a queen, 8; an elector, 12; an electress, 6; a duke, 8; a duchess 4; a bishop, 4; a count, 4; abbots, knights, burgo-masters, and doctors, 2 each. The cities of the Hanseatic League frequently sent presents of wine to the neighboring sovereigns to appropriate them—which was of the greater importance, as it induced them to exercise greater vigilance in taking measures for the security of the roads through their dominions, on which the commercial traffic of the free cities so much depended.

Monthly Statistics.

THE INFLUENCE OF THE SOIL UPON THE CHARACTER OF WINES.

Perhaps no where is the influence of the soil and its ingredients so apparent as in the difference of character of our native wines. It is peculiar, that it will assimilate more of the ingredients of the soil, and show their peculiarities in its product—wine—than in almost any other plant; and perhaps no soil contains more free salts, than the so called virgin soil of America. That those salts have a dominating influence upon the character of the wine, we hope to

show more fully in our article "the chemistry of wine"

We find a striking illustration of this in a comparison, which we lately made, between samples of the wines produced at Hermann, Mo., on the southern side of the Missouri River, and some made at Portland, Callaway Co., Mo., on the northern side, by Messrs Kaiser, Ehrich, and A. Eberhard. While the wines of Hermann have more of the foxy aroma, and more body as well as acidity, those

from Portland have less of foxy character as well as acid and body ; which on the whole, may be considered an advantage. . The fact is, that the Concord of Portland is a more agreeable and pleasant wine, than that of the same variety grown at Hermann, which latter will only loose some of its disagreeable qualities by age and rational treatment.

For Nortons Virginia, however, this prince of American red wines, in which the flavor, which we find repugnant in the Concord and call it foxy, has been developed into real *aroma*, Hermann and its vicinity seems to be the most suitable soil.

We shall refer to this subject again, in one of our future numbers.

C. H. FRINGS.

PURE CONCORD WINE.

In the *Journal of Agriculture* our honored friend Fred. Muench wrote in reply to an advertisement, asking for "Concord Wine not Gallized" that "we may run over the whole world and not meet with Concord wine not gallized, and yet worth drinking." Upon this Mr. J. J. Kelly, of Webster, St. Louis Co, comes out in an article in defence of ungallized Concord; as he has produced such, which stood a severe test and came off victorious.

It took the first Premium at the Great National Wine trial at Hermann, and also the first Premium at our great Agricultural and Mechanical fair in St. Louis last Fall. (Mr. Kelly forgets to state, however, that this was *white* Concord, made from the first light pressings.)

To this article Mr. Muench now answers, through the *Journal of Agriculture*, from which we copy the following:

My own experience on the Concord is extensive and of many years standing, so completely coinciding with the judgement of all my friends of vintner fraternity, that as yet, I had

no reason to doubt the correctness of my view on the matter. I was confirmed in this at the meeting of the Am. Pom. Soc., held at St Louis in September, 1867. I there and then acted as a member of the Committee on Red Wines. We had nearly 70 samples of Concord wines before us; very easily I could detect the so called pure and unmixed wines, and all of them were by the unanimous verdict of the Committee declared "inferior, poor, and very poor," while 6 samples, judiciously gallized, were pronounced to be "good, very good, fair, fine." Thus *your* statement appears to me as an exception to the rule to be accounted for by circumstances unknown to me.

I too can make very good genuine or unmixed Concord wine in the following manner: I press the grapes but slightly, and stop pressing as soon as the juice shows a darker color. Yet these first runnings may be improved by some gallizing. What then is to be done with the mash? Throw it away—you must say—and therewith cast off one fourth of the juice and also by far the greatest portion

of just that peculiar aromatic stuff, (too condensed to be agreeable) from which a very pleasant flavor may be developed, making a wine of a straw or light purple color, which in its way is an excellent article, and can be sold at such prices as to bring wine drinking into general use.

There is yet another way of making the "pure" juice of the Concord grape drinkable: Press in the ordinary way, let the must ferment, keep your wine with the necessary care three years in a very good cellar, and then the slow operation of time will have effected what might have been done in a moment by some harmless artificial procedure, I mean, the surplus aroma will have been volatilized, and the original harshness mitigated.

But in so doing, can we compete with California vintagers, whose product, certainly not inferior to our very best Concord wines, is now sold in St. Louis at one dollar a gallon?—For my own part I am not extensively engaged in the growing of Concord wine, preferring to raise a stuff—though requiring much greater care and more labor—that has nothing to fear from importation, either from California or the old world.

The aromatic stuffs in the various kinds of fruit, flowers, roots, spices, &c., are chemical compounds, and similar aromas may occur in very different vegetable bodies. Thus the peculiar bouquets of wines may very appropriately be compared to the odor of the rose, violet, mignonette &c., and their flavor to that of the strawberry, raspberry, nutmeg. &c. The peculiar aromatic stuff of the Concord is indeed the highly con-

densed, and therefore repugnant strawberry aroma. Is there any thing incomprehensible in this? It is perhaps unknown to you that out of that most nauseous stuff called "fusel" by *proper dilution* an enchanting perfume can be gained, nay that such perfumes are now worked out of coal tar?—Perhaps one drop of the strawberry ether is just enough for a whole gallon of wine to give it a pleasant taste and flavor; what will you do when your must contains three and four times that quantity?

Nature has furnished the elements, and constantly brings about numberless combinations to serve her ends. But man also, led by science and experience, combines, dissolves and changes according to his aims and objects. The grape, the peach, the grains of wheat and corn were by nature designed for propagation; man claims a right to interfere and use all natural productions the best he can, even to change nature's original course into what suits best his own ends. The gallizing process is no more to be blamed than the making of bread and cakes out of wheat grains, and the only reasonable query is: Is your product valuable, palatable and wholesome, and is the whole community not injured thereby?—I do not give a straw for the assertion of the one or the other that his wine is "pure and unmixed"; I taste the wine and ask no questions.

I would like to taste *your* Concord wine, I would like better to have you taste mine. I am old; can't you afford to give me the pleasure of your company at my rural homestead?

FR. MUENCH

THE CHEMISTRY OF WINE.

*By Ches. H. Frings.**(continued.)*

In preserving different kinds of fruits, for instance cherries, while they are put in a glassvessel in raw condition and the vessel closed up with a piece of bladder being exposed for about half an hour to the heat of boiling water, the fungus-buds upon the cherries and in the vessel are destroyed; and the bladder afterwards works the same way as the wadding, preventing the access of the germs from the atmosphere. The same effect will be produced by covering a fermentable or decaying liquid with oil or tallow. And also, by preventing the access, the forming of the infusory worm will be guarded against, whose germs impregnate the atmosphere and exist everywhere.

Besides oxygen, which they find nearly everywhere, the yeast-cells require nitrogen for their development, which is contained in the gluten of most of the plants. If then, fermenting can be brought forth only by formation of yeast, that fermentation will last no longer, than until the nitrogen of the liquid has been consumed, provided the air has no free access, so as to enable the yeast-cells to receive nitrogen from the atmosphere, thereby remaining on the surface of the liquid in the form of mould.

If fermentation depended merely on the solution of the existing sugar without regard to the presence of nitrogen, there would be no ready made wines containing sugar. The very

richness of sugar enables the juice of grape to fully perform fermentation. After fermentation, the sugar yet existing will not be dissolved any more, except in the case above mentioned, where the spirituous fermentation, by way of access of air, is transformed into acid or fermentation of vinegar. From these reasons wines of heavy body are more durable than light ones, the first named, being free of gluten and albumen, sometimes to a high degree contained in mild wines not fermented to the full extent. In the latter case the contents of sugar in the juice of grape are not sufficient, having been transformed into alcohol and carbonic acid before the complete consumption of nitrogen substances. Some wines even incline to change into acituous fermentation.

But the fermenting capacity of sugar has also its culminating point. If the juice of the grape contains more than 25 per cent of sugar, the spirituous fermentation ends as soon as 12—13 per cent of alcohol have formed, according to the quantity of sugar above stated. The balance of the sugar remains undissolved; nevertheless, the nitrogen and yeast-forming contents may prevail in such a degree, as to produce a sediment in the wine at any change of place or temperature, or whenever air is admitted, although they may contain undissolved sugar.

In all cases however, where wine is changing, either for better or worse, the germs of fungus perform an

important part, and in showing their participation in the manufacturing of wine, we have pointed out but a small part of the great ends allotted to these microscopic organisms in the economy of nature. Decomposition can never take place without the germs of fungi having a part in it, the one way or the other. Neither the spirituous, nor the acid, nor the slimy, nor the septic fermentation can succeed before the germs of fungus have given them a start. We would not even be able to digest those meals we take, but for the assistance of those germs of fungus. They are to be found copiously upon the sides of the inner mouth and throat constantly mingling with the saliva, by which we are able to bring solutions of sugar into fermentation and to turn sugar into starch. Everywhere, in the throat, in the stomach, in all the intestines we find the formation of fungi. They pass with the food into the stomach and through the whole body. In the rectum and in the excrements we find them most abundant; they are even, as has been settled beyond doubt by the latest experiments, the invisible bearers of epidemic diseases, and that horrible scourge of mankind, the cholera, owes its propagation only to the germs of fungus.

After this digression, which led us into a gloomy province of nature, we will return to the subject of fermentation of wine.

To produce spirituous fermentation the following is required:

1. Sugar liable to ferment.
2. Sufficient dilution of the sugar.

3. The presence of bodies containing nitrogen.

4. Contact of the liquid with the atmosphere.

5. A proper temperature.

The three first named requisites are always found in the juice of the grape, although under different circumstances.

Dry sugar will never ferment, neither will a concentrated solution of sugar. When only slightly concentrated, it will ferment imperfectly, remains therefore, after the fermentation, sweet, that is to say, still contains sugar not yet decomposed.

Solutions of sugar, containing up to 25 per cent sugar are still able to ferment perfectly. A sugar solution of 30 per cent, however, ferments only partially; therefore, if a complete solution of the sugar is intended, it must be dissolved properly, so as not to contain more than 25 per cent of sugar.

The contact of the grape juice with the atmosphere during the process of pressing is sufficient, and the process of fermenting can take place without any further contact of the juice with the air; because the germs of the fungi, which produce fermentation, find everything necessary for the growth and propagation in the fermenting liquid. A single germ of a fungus only is required to produce and continue fermentation.

The outside limits of the temperature, in which fermentation is best produced, are from 50 to 90 degrees Fahrenheit. If the temperature is lower, fermentation is too slow; the freezing of the liquid stops it altogether. If the temperature is higher,

other articles, besides alcohol, are produced; too much of the alcohol evaporates, and the same is liable to

be turned into acetic acid, if atmospheric air is not carefully excluded.

To be continued.

EDITORS' LETTER BOX.

Hagerstown, Md.

To Grape Culturist:

Every body feels that there is something artificial in the scale of Fahrenheit's Thermometers, and that the Centigrade scale would be more natural, and easily remembered, and that it would have been better if it had been popularized. We are beginning the wine business in a scientific manner, and we ought to use a per cent must scale instead of an awkward thing that requires calculation every time to reduce it to a per cent idea. All writings say per cent; we read of 24 per cent being the proper amount of sugar in good must. It is much better to say that Concord must contains 20 per cent, than that it weighed 86°.

I hope that those reading this, will see it as I do, and say per cent instead of degrees.

II.

The must scale or saccharometer has only for its object to determine the specific gravity of the juice of grapes. If the scale, for instance, shows 86° it means simply, that the must is 0.086 times more dense, or heavier than water, the specific gravity of which is 1.000. Of such must we would then say it weighs 1.086. When we suppose, therefore, that a must of this weight contains 20 per cent sugar; this supposition is only founded upon

experiments made with European varieties of grapes, and which in this country, with different varieties of grapes, would only be reliable in a very few cases, because the must contains also a number of other ingredients, which differ according to the variety of grapes. We shall introduce next fall, after careful experiments with our native grapes, an apparatus, which will show the amount of sugar contained in the must, in a more direct manner, than it can be done by Oechsle's scale now generally in use among our vintners.

Mr. W. J. Brown, Ashville, N. C.
—The Herbemont vines you mention, which have been healthy before, but now rot badly, are very likely exhausted. We would cut them back closely, not allow them to bear too much fruit for a year, and fertilize them with the rich vegetable mould you speak of. The stones would not do them any good. The shade of the appletrees they have been trained on, would also be apt to induce disease. The Herbemont nods in the sun, and can hardly get too much of it.

We would advise you to plant a small piece in the open ground, with that variety, which must be *the* grape for the South.

Editor.

Wholesale Prices of Foreign Wines & Liquors.

(From the N. Y. Shipping and Commercial List.)

FEBRUARY, 1869.

WINES—DUTY: Value not over 50 cents $\frac{1}{2}$ gallon, 20 cents $\frac{3}{4}$ gall. and 25 $\frac{1}{2}$ cent. ad val.; over 50 and not over 100, 50 cents $\frac{1}{2}$ gall. and 25 $\frac{1}{2}$ cent. ad val.; over \$1 $\frac{1}{2}$ gall., \$1 $\frac{1}{2}$ gall. and 25 $\frac{1}{2}$ cent. ad val.

Madeira..... $\frac{1}{2}$ gall.	3 50	@ 7 —
Sherry.....	1 25	@ 9 —
Sherry, "Cosens," Ives, Beecher & Co. gold.	2 —	@ 7 50
Sherry, Yriarte, J. W. Cox.....gold.	2 25	@ 4 50
Port.....	2 —	@ 8 50
Burgundy Port.....gold.	— 75	@ 1 25
Lisbon.....gold.	2 25	@ 3 50
Sicily Madeira.....gold.	1 —	@ 1 25
Red, Spanish and Sicily.....gold.	— 90	@ 1 —
Marseilles Madeira.....gold.	— 70	@ — 85
Marseilles Port.....gold.	— 80	@ 1 60
Malaga, Dry.....gold.	1 —	@ 1 25
Malaga, Sweet.....gold.	1 10	@ 1 25
Claret.....gold, $\frac{1}{2}$ cask.	35 —	@ 60 —
Claret.....gold, $\frac{1}{2}$ doz.	2 65	@ 9 —

The demand is confined to jobbing parcels, but prices are without quotable change. We only notice 200 gr. casks Sherry on terms not made public.

SPIRITS—The demand for Foreign continues without improvement, but prices remain firm. The market for Domestic Whiskey is very dull, and prices favor the buyer; small sales new at 94@96 cents, duty paid.

Import from Jan. 1st to Jan. 31st, 1869—

BRANDY—	Casks.
From Foreign Ports.....	596
Coastwise.....	19
Total.....	615

Same time, 1868..... 46

RUM from Jan. 1st to Jan. 31st, 1869—

	1869	1868
Puns.....	105	30

SPIRITS—DUTY: Brandy, for first proof \$3 $\frac{1}{2}$ gallon:

Gin, Rum and Whiskey, for first proof, \$2 50 $\frac{1}{2}$ gall.	
Brandy, Otard, Dupuy & Co.(gold). $\frac{1}{2}$ gall.	5 50 @13 —
Brandy, Pinet, Castillon & Co....(gold).	5 50 17 —
Brandy, Leger Freres.....(gold).	5 50 10 —
Brandy, Renault & Co.....(gold).	5 50 16 —

Brandy, Sazerac de Forge & Sons.(gold).	5 25	18 —
Brandy, Hennessy.....(gold).	5 50	13 —
Brandy, Roulet Delamain.....(gold).	5 —	8 —
Brandy, J. & F. Martell.....(gold).	5 35	9 —
Brandy, Marett & Co.....(gold).	5 50	10 —
Brandy, Vineyard Proprietors.....(gold).	5 50	10 —
Brandy, Ph. Godard.....(gold).	5 25	8 —
Brandy, Cen. Soc. Vineyard Prop'rs(gold).	5 —	7 50
Brandy, Pellevoisin.....(gold).	5 —	5 15
Brandy, A. Seignette.....(Gold).	5 —	5 15
Brandy, Alex. Seignette.....(gold).	5 —	5 15
Br'dy, Hivert Pellevoisin, Tournade(gold)	5 —	5 15
Brandy, Arzac Seignette.....(gold).	5 —	5 15
Brandy, Hlope Seignette.....(gold).	5 —	5 15
Brandy, E. L'Eveque.....(gold).	5 —	— —
Brandy, P. Romieux.....(gold).	5 —	— —
Brandy, A. Deuyz.....(gold).	5 —	— —
Brandy, Henry L. L. Chatenet.....(gold).	— —	5 —
Brandy, T. Meneau.....(gold).	— —	5 —
Brandy, J. Cheron Champagne... (gold).	— —	5 —
Brandy, Vineyard Propriet's, Roch.(gold).	5 —	— —
Brandy, Bussac, Aine & Co.....(gold).	— —	4 75
Brandy, Camille Seignette.....(gold).	— —	4 75
Rum, Jamaica, 4th proof.....(gold).	4 50	4 75
Rum, St. Croix, 3d proof.....(gold).	3 50	3 75
Gin, Meder's Swan.....(gold).	— —	3 75
Gin, Cloversman's Schiedam.....(gold).	— —	3 50
Gin, Clover Leaf.....(gold).	3 40	3 45
Gin, Swallow.....(gold).	3 25	3 50
Gin, Locomotive.....(gold).	3 —	3 25
Gin, Nolet's Union Flag.....(gold).	3 —	3 25
Gin, Cabinet, Ives, Beecher & Co.(gold).	3 50	— —
Gin, Talip, Paris & Allen.....	— —	4 75
Gin, Telegraph.....(gold).	— —	3 25
Gin, Black Horse, J. & J. Tournade(gold).	3 15	3 25

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THE GRAPE CULTURIST.

VOL. I.....MARCH, 1869.....NO. III.



THE CASSADY GRAPE.

THE CASSADY GRAPE.

The Cassady grape originated in the garden of H. P. Cassady, Philadelphia, Pa. as a chance seedling. Bunch medium, very compact, sometimes shouldered; berry medium, round, pale green, covered with white bloom, when very ripe its color changes to light yellow, skin thick and leathery, pulpy, but with a peculiar honeyed sweetness which no other grape possesses in the same degree. Ripens with the Catawba. Vine a moderate grower, a true *Labrusca* in habit and foliage, immensely productive, so much so that nearly every fruit bud will push several branches, with from three to five bunches each. We have counted nine bunches from a single eye.

This grape is one of the few exceptions in the *Labrusca* family which will flourish best on a north-eastern and northern slope. Its leaves are subject to sun-scald on southern and south-eastern exposures.

We have cultivated it since 1858, have found it uniformly productive, not subject to rot and mildew, but very often the leaves would drop prematurely, and the fruit would not ripen well if grown in southern exposures. It makes an excellent white wine, which has often been taken for "Pfeizer," or even Rhenish wine by connoisseurs, and one of them even went so far as to say, *he* had sold us the wine from a cask of "Deidesheimer" he had in his cellar; a rather amusing proof how the "knowing ones" may be mis-led. For deep, rich, sandy soil, with north-eastern or northern exposure, we can safely recommend a trial with the Cassady. Perhaps, also, for river bottoms.

Specific gravity of must, 80° to 96°. Wine of a beautiful golden color, of a good body and delightful aroma. The "Arrott" resembles this grape very much, but is not as good.

THE VINEYARD.

WORK FOR THE MONTH.

March will bring a busy time for the vintner, especially if he has not taken advantage of the winter months to prepare his trellis, and get his ground in order.

In already planted and farther advanced vineyards, trellis should at once be put up, where not already erected. A post hole auger will be

most convenient to make the holes. These should be made two feet deep, and twenty feet apart in the rows. — Set them firmly by pounding the earth down solidly beside them, with a brace against each post at the end of the row to prevent their giving way when stretching the wires. The best plan to stretch these I have found to

be the following: Bore the hole with a half inch auger through the posts at the ends, the lowest one about twenty inches from the ground, the second about eighteen inches above it, and the third eighteen inches above the second. Draw the wire through the hole at the end and fasten it to a cross piece of wood about a foot long, and, say, one inch thick. Then stretch the wire along the posts, at the same height, fastening it either with short staples or four penny nails, drove in cross wise, and draw it through the other end post in the same manner, fastening it also to a cross piece. By turning this cross piece, you can at any time tighten or slacken the wire. During summer, the wire expands, and you can then tighten it by simply turning the cross piece. In winter, the wire will contract, and you had better slacken it in fall by unwinding the cross pieces.

When your trellis is ready, you can tie your vines. We can give no special rule for this, as it will, of course, vary with the variety and style of pruning of each. But a *general* rule we can give, and this is: Distribute your vines so that no part of them is crowded, but all can have full benefit of sun and air. Never cross a bearing arm or cane with another, but give the whole vine a fan shape, leading all the young shoots, destined for next years bearing, up to the middle of the trellis. All the wood should be tied to the two lower wires, giving the canes a bend, if practicable, and distributing them evenly. Tie with willows, if you have them; if not, strings or matting will do, but tying should be done firmly, so that

there is no giving way or breaking of the ties when the vines become loaded with their fruit.

This is also the month for *planting*. If your ground has been well prepared, this will be a comparatively easy task. For marking, if you plant in straight rows, use a common line, which may be marked at the distance you wish to plant, with a strip of ribbon tied into the line. You can then stretch it along the row, and put down a small stake, where each plant is to be. Be careful, on sloping ground, to leave spaces for surface drains, every 6th, 8th or 10th row, according to the steepness of the slope. The steeper the hill-sides, the more frequent must be the surface drains. These should run parallel with the hill-side, and the water be carried off into principal drains, descending the hill at suitable places.

But if we intend to plant, our first requisite is, — the plants themselves. And here let us say a few words about them.

If you have not grown them yourself, get them from none but reliable establishments. They should be procured in fall, and carefully heeled in; as then you will have them ready whenever you want them. But at any rate, if you have not ordered in fall, get them early enough in spring. Get first class one year old vines; they are much the best plants, and you should get *only the best*. It is poor economy to pay 10, 20, or even 40 dollars less for second class plants, loose half your vines and a whole seasons crop. Get them where you can rely upon their being *true to name*; and, if you can have your choice, take either plants

grown from *cuttings*, or from single eyes. We refer to this subject again in another article, where we will try and give our reasons fully why we prefer them.

If your ground is prepared, and sufficiently dry, so as to pulverize well, you can *plant*. Make a hole with a spade, slanting towards the hill, so as to get the lowest roots of the young vine about 9 to 10 inches, or even a foot below the surface. Here let us remark, that the depth of planting must necessarily vary somewhat with the nature of the soil. On very steep hill sides, and especially on southern slopes, with naturally warm, dry soil, you must plant deeper than on deep, rich hillsides, or on bottom land, or our rich prairie soil. Eight inches will be deep enough on the latter, while on the former, I would plant a foot deep, or even 14 inches. The reason *why*, will be obvious to every thinking mind. We can no more give a rule for uniform depth of planting than we can get a universal grape for all soils and climates.

Having made the holes,—and do not make too many at a time, as the ground will dry out too quickly,—we can go to the planting itself. Take your vines in a pail with water, or wrapped in a wet cloth; when planting, let one person shorten the roots, with a sharp knife, to about six inches, then spread them out evenly to all sides, and another fill in with well pulverized earth. The earth should be worked in among the roots with the fingers, and lightly pressed to them. Lay the vine in slanting, and let its

top come out at the stake previously set. Then, with your knife, cut back the top to a bud just above, or even with the surface of the ground.

You can also, if the ground is in suitable condition, plough and hoe old vineyards. We have found the common one-horse plough the most suitable for this purpose. It can be easily and nicely managed, and will pulverise the soil more thoroughly than any cultivator or other implement. Plough *from* the rows first, taking a furrow as near to the vines as you can without hurting them, then hoe in and around the vine, with the two pronged german hoe (karst), and when the hoeing is done, plough *to* the vines again, now ploughing all the space between the rows thoroughly, leaving a furrow in the middle, which will serve as a surface drain for each row. We plough about 4 inches deep the first time.

This is especially the month for *grafting*. For *modus operandi* see Feb. No.

Cuttings, if not already planted, should be put out as quick as possible now, in the manner described in the Feb. No.

Canes for layering may be pegged down. Pulverize the soil thoroughly under the vines, then make furrows about an inch deep, bend the cane into it, and peg down with wooden hooks cut for the purpose. You can cover with earth, when the shoots have grown about six inches; not now, as the buds will break more evenly, if the canes are not covered.

WHAT SHALL WE PLANT?

By the Editor.

This is a question which nearly every planter will ask himself, and if he has not sufficient experience, he will ask it of others. We will try and give a few hints in connection with this all important question; for *rules* we cannot lay down. And we may as well follow yankee practice for once and answer one question by asking another.

We therefore ask: What do you intend to grow? Do you intend to market your fruit? Do you want it only for family and table use? Or do you want to make wine of your grapes? Is *quality* your aim, or only *quantity*? Where do you live? What is the nature of your soil? What is the aspect?

All these and perhaps many more points should be taken into consideration, and as March is *the* month for planting, here and further South, we will try and elucidate them to the best of our knowledge and ability.

Remember however, kind readers all, that we do not pretend to give you *infallible* advice. We hope to hear from you *all* upon the subject. Give us your *local* experience; for "in multitude of counsels is wisdom." It would be foolish and presumptive in the extreme, to try and lay down rules for as wide a territory as we have; and we do not belong to the class, who try to force *one* grape upon the whole Country. We have had too much of that already; and we trust the sensible grape growers are beginning to see it.

What shall we plant for market?

For Northern climates we think it advisable to plant Mary Ann, Perkins and Hartford Prolife, not because they are *very good*, but because they are *very early*; and if people can eat and laud the Draent Amber at the North, they can surely enjoy these. To these we would add, Telegraph. Concord, Rogers Nos. 3 and 4, North Carolina Seedling, and for a white one, Martha. We think these would succeed *any where* almost; for our latitude and further South, we would add Rogers Hybrids, Nos. 1 and 8. They ripen late, have magnificent showy berries, would, we think, keep well, and are productive and healthy.

For family use and the table. Here we take it for granted, that quality is to be considered indispensable. While therefore it will do no harm to have a few of each of the former, and a pretty good dose of Telegraph, Concord, Rogers No. 1 and 4 and Martha, you can not get along without Creveling, Maxatawny, Delaware, Salem and Herbemont. These five, with Rogers No. 4, are the best American grapes we have yet tasted; better than the much lauded Iona, purer in taste and flavor; and if you want to add something exquisite to them yet, take the Alvey and Clara. They may not bear immense quantities, but they are so good that you can afford to give them a little room and extra care. For Northerners, the Herbemont, Clara, Maxatawny and Rogers No. 1 may not ripen, and we only can say that we pity them; because

they can not know how good an American grape *can* be. They must leave them out, unless they intend to grow them in cold graperies, and for that purpose they would very likely prefer the Golden Chasselas, Black Hamburg, Bowood, Muscat, &c.

For Wine. Do you want to make the every day drink for the million, the wine which is intended for every body, to take the place of beer, whiskey and other compounds, of which you can make the greatest *quantity*, but which will also bring the lowest price, in short the *cosmopolitan* wine grapes? Then plant Concord, Martha and Rogers No. 1, if you live in a climate, where they will come to full perfection. We may perhaps add to this, the Clinton, and Rogers No. 9 as well as Telegraph, promise to become valuable for this class. Or do you aim at high *quality*? If so, plant for red wine, the Cynthiana, Nortons Virginia and Creveling. For white wine the Delaware, Taylor, Herbermont, Martha, Maxatawney, Cassady, Cunningham, Louisiana, Rulander, and Rogers No. 3.

These are the wines with which we can fearlessly challenge the choicest brands of Europe; and which are destined to make a name and a mark for American wines.

But no doubt many of our readers ask: Where is the Ives, the best wine grape of the whole country, according to the finding of the Committee on the Longworth premiums? Excuse us, kind readers all, *we* are judging from *facts*, that committee seems to have judged from *suppositions*. But very little of the Ives wine has been made *outside* of Ohio, and what we have

tasted from there, as well as what we have tasted of it made here and in Illinois, has given us no very exalted idea of it. It may belong to the first class, to the cosmopolitan, cheap red wines; but no sample which we have tasted as yet, has seemed to us at all worthy of taking rank in the second class. If *such* wine sells at \$3.00 and even \$4.00 per Gallon from the press, we can only say, that local patriotism must have been very much developed in the buyer.

The *vine* seems to be healthy, hardy and productive *after* the fourth year. But the grape is little better than Hartford Prolife, which it closely resembles. We shall be very glad indeed, should the sequel prove that we were mistaken, and that the millions of vines now planted of that variety, *because* it took the premium of the Longworth Wine House, should prove a profitable investment for their owners. At present, *we* would rather plant Concord.

We now come to soil and aspect. If you have an eastern exposure, with deep, rather moist soil, plant Concord, Martha, Rogers No. 1, 4, 8, 9 and Telegraph. You may add to these Cynthiana and Nortons, as they seem to flourish every where. Ives would also do here, in short all the *Labrusca* family.

If you have a southern aspect, a warm, porous soil, mixed with lime; plant Herbermont, Cunningham, Rulander, Louisiana, Cynthiana and Nortons. They are "children of the sunny South" and will flourish best, and make the richest wines in such soil.

For north eastern and northern exposures, also for sandy river bottoms,

in short, for deep, rich, sandy soil, plant Delaware, Alvey, Creveling, Cassady. Our hot summer's sun seems to be too much for them, and their foliage often suffers from sun scald in southern locations.

Clinton and Taylor seem to be cosmopolitan in their habits, and will grow and flourish any where.

These are but general hints; they are based however, upon close and actual observations *here*. We have tried to give only the names of such as are perfectly reliable, healthy and productive. Can any of our readers add to the list, and recommend varieties from *actual observation*? If so, we shall be glad to hear from him.

THE PROPAGATION OF PLANTS.

(Concluded.)

In my previous paper, the Physiological and Philosophical principles of propagation were laid before the readers of the Culturist; and, as propagation of the grape vine was more particularly considered, the kind of wood, and method of keeping it preparatory for use, were also considered. In this paper I propose to take up the different methods for propagating the vine for the continuance of varieties. Just here I would remark, that NATURE has but one way of continuing a variety of the vine; that is by layering; all other systems are artificial, and are carried on by using pieces of the internode, or buds attached.

Layering: Layering is much the easiest, and most successful, but *can not* be done to any great extent without exhausting the parent plant; hence it follows, that continued layering only produces enfeebled plants. For layering, select canes of medium size, short jointed, firm texture of bark, wood well ripened, of the previous seasons growth. In the spring before the buds begin to push, make

a shallow trench in the direction it is desired, bring down the cane into the trench as closely as possible without breaking, and fasten with hooked pegs, or by crossing two pegs over the cane and pushing firmly into the soil. After the buds have pushed from four to six inches in length,—if more than one cane has started from a bud, rub off, leaving only the strongest cane—with the hoe cover the cane laid down from two to three inches with soil, pressing it quite firmly. Should the season be dry, mulching with forest leaves, straw or fresh grass, mown for the purpose, at least two inches in depth will very much aid in keeping the soil moist, thus giving much stronger and satisfactory plants in the fall.

The artificial systems of propagation are, either by cuttings under glass, in houses for that purpose, or in the open border out of doors.

In door propagation. For what is termed in door or under glass propagation, the canes of the previous years growth, well ripened, are cut in

pieces of from two and one half to three inches of wood below a bud, with about an inch above, and eared for as directed in my previous paper. For description and method of building propagating and growing house, I would refer to an excellent book, "*Gardening For Profit*," by Mr. Peter Henderson, South Bergen, N. J., and 67, Nassau St. N. Y. When the proper season arrives—which is to be determined by each individual in their particular location—the cuttings are taken from the material in which they have been stored, washed clean, being careful they do not get dry, they are pushed into the sand bed at an angle of about sixty degrees, with the bud on the upper side, so as to nearly cover the bud, in rows across the bed, two and a half inches apart, and one inch in the row. The sand at this time being slightly moist and *not too tightly* packed. After the cuttings have been put in, the bed should be *thoroughly* watered with a fine rose watering pot, to firmly settle the sand around the cuttings. The temperature of the bed at the time of sticking cuttings should be at from 50° to 55°; this temperature should be maintained for a few days, when it may be gradually raised to 70°, and *never* above 75°, as the young roots are too delicate to endure under a higher temperature, without causing more or less decay, consequent exhaustion, and drooping of the young and tender leaves. The night temperature should be at least 5° lower than during daytime. The temperature of the room *should* at all times be from 10° to 15° lower than the bed, thus retarding the pushing of the bud until roots are well formed,

ready to sustain the young growing cane. Keeping also this one idea prominent, *give abundance of pure air* at all times, as plants while growing require it as much as animals. I would here remark, that the best inclination of the propagation house, is to the North; the avoidance of the direct rays of the sun, giving too much heat, the reflected blue rays of light, with the actinic or chemical rays are better obtained, which are very essential to successful propagation. When the young plants begin to show a healthful, steady growth, the propagator may know that roots are formed sufficient for potting. After potting, the plants should be placed in the growing room, in a moist temperature of from 75° to 80°, until the roots have drawn well to the sides of the pot; when they should be hardened off by giving plenty of air, preparatory to planting out in the open border in *well prepared* soil, where they are to grow for the season. A very convenient tool to expedite and render the labor of planting from the pots easier, is made by turning in a lathe a piece of hard wood, of the same size and taper of the inside of the pots used, but continuing the shape so as to make the block one and a half inches longer than the depth of the pot. In the centre of the larger end, bore an inch hole two inches deep, in which put a handle one inch in diameter and four feet long. When ready for planting, draw a line across the ground, intended for planting, so as to make a mark; a man takes the tool in his hands, standing near the mark, with his right foot on the projection of the upper

end of the block, thrusts it into the ground until his foot touches the surface of the ground, then drawing it perpendicular, leaving a hole of the same form and size at the bottom of the ball of earth in the pot, which he continues to make the proper distance apart in the row. Another man follows, taking the plants from the pots, holding them by the stem, places them in the hole, pressing them gently down, then giving them a thorough watering, after which draw the soil in around the plant, pressing it firmly down with the hands. The soil may be mulched between the rows—which are from twelve to eighteen inches apart—with forest leaves, straw or any material, convenient at hand, congenial to the growth of the plants, remembering that *clean cultivation* is necessary.

Out of door propagation. Formerly, for out door propagation, I used cuttings of from six to ten inches in length; but for the past eight years I have made my cuttings from four to six inches in length, preferring single eyes, when they can be obtained, of proper length; if more than one eye is necessary, I blind the lower eye or eyes, so as virtually to make my cuttings one eye. These are cut up in the fall or early winter, from wood which *has not been permitted to dry* while pruning the vines, and kept through the winter as directed in my previous article. As early in the Spring as possible, prepare the land intended for use, of good fertility with organic material, so as to make it mellow of good depth, lay it off into beds four feet wide, of any convenient length, leav-

ing a space twenty inches wide between the beds, for walks. After which make the beds, by raking &c. of fine tilth ready for the cuttings. After washing the cuttings, as previously directed for in door work, put them in pails with water, carry to the beds, stick them in rows, twelve inches apart, and three to four inches in the rows, across the beds, so that the upper end of the cutting is quite beneath the surface of the soil, then pack the soil firmly on each side of the row of cuttings. After the bed is filled, it will be well to give the cuttings a thorough watering. If mulching is used, remember—it is an old idea, and long ago used—that my friend Mr. Wm. Griffith has recently obtained a patent as his invention. Spent tan, sawdust, forest leaves or straw is good. If mulching is not used, watering the rows *thoroughly* three times a week until roots have well stuck, will save a large per cent of cuttings that would otherwise be lost if mulching is not used. If very dry weather should come on, a continuation of watering the beds once a week, to saturation, will save many dollars to the pocket of the grower.

I suppose, that mulching after the plants are growing, will be no infringement on my friend's patent; I sincerely hope, that what I have heard is true, that Mr. Griffith has generously donated the use of his invention to the grape growers of this Country.

I need not say to the readers of the *Culturist* how necessary it is, that clean culture should be strictly adhered to.

E. S. BARTHOLOMEW.

GRAPES AT SANDUSKY, ETC.

BY M. H. LEWIS.

(Continued.)

THE MOTTLED. This variety undoubtedly deserves more credit than it has gained at home and abroad. Our Mississippi friends need not take alarm—no one this way proposes to *push* it. As an *anomaly*, let it win by its merit. Only, Messrs. Magnates, do not brain it, till after fair trial. It was recorded by three competent judges, Mr. Geo. Leick being one, that its must a year since, before the Catawba was matured for the test, weighed 94^o with acid 4%.

Mr. Addison Kelly, largely interested in grapes and wine, is considerably extending his planting of it.

This year it yielded a fine crop, though that of 1867 was better.

It ships well and meets with favor in the early market. It will prove of principal value as a wine grape. It should hang long. Worthy of extensive trial, to say the least.

NORTONS VIRGINIA. Strange that any one at all conversant with the Lake Shore—west end, where the main grape crop is raised—should declare that this splendid grape does not succeed here. So Dr. Spalding in his Minority Report claims.)*

That is calumnious. Ask George Leick of Cleveland, Geo. Van Hausen of Sandusky, Louis Holmes of Put-in-Bay, all practical growers and wine makers, and of a fame outside of their own locality. This season, on Put-

in-Bay, its berries were singularly infected with an insect, which stung the berries to deposit its egg. This injured the crop somewhat. Otherwise, in this vicinity, the Nortons made a very fine showing. The wine is so superior, it has greatly widened its circle of friends. Besides many are surprized to find its berries fit to eat. Its spicy, vinous juice, in many instances of our observation, proved so refreshing, that the ladies reached past Delaware and Catawba to take up the black compact bunches.

Must 104^o, even higher in one case.

ROGERS HYBRID, No's. 4 and 19. These with us have so far shown most good parts. Productive, good quality, undiseased, free growing, early, large and handsome,—this is the years record. No. 19 proves of better quality, No. 4 larger and earlier.

No. 15. Showed mildew and bore shyly. I am convinced that this No. will do best on sandy, and perhaps light gravelly soil.

TAYLOR or BULLITT. This we "set no store by," but in a few cases I find it has given a fine crop, and greatly encouraged the owners. It has been pruned on our biennial renewal system and consequently made solely wood growth. The success this season has been reached by long pruning and fruiting on the laterals mainly. Mayhap the increase of years helped the crop.

*That is, claims that some so declared.

HISTORY OF THE CUNNINGHAM GRAPE.

BY JOHN J. WERTH OF RICHMOND, VA.

This valuable variety, of our class of native grapes, originated in the garden of Mr. Jacob Cunningham, in Prince Edward County, Va. about the year 1812; and in 1832 had covered an arbor 50 feet in length and 12 feet in height—having proved a hardy and thrifty vine, and a prolific bearer. In the latter year, Mr. Samuel W. Venable had established in his vineyard in Prince Edward, a number of vines of this variety; and he was probably the first person who made wine from it, under intelligent and expert management. He pronounced the wine as very much resembling Madeira. Dr. D. N. Norton, a prominent amateur horticulturist, and an acknowledged expert in foreign wines (and who first cultivated and introduced to notice our invaluable *Norton* grape) made wine from the Cunningham grape in 1835, procuring his stock from Mr. Venable; and furnishing to the elder *Prince*, of Flushing, Long Island, the stock which was the base from which the grape has been,

no doubt, disseminated, directly or indirectly, through different sections of the Country. Dr. Norton pronounced the wine very similar to *Murdock & Co's.* celebrated brand of Madeira.

Mr. Venable entertained no doubt that the *Cunningham* grape was a chance seedling of the *Bland* grape, which is doubtless a seedling of our wild fox, and in 1812 was found in almost every garden in this State, within 150 miles of the coast, where any grape was cultivated.

As far as I have traced this grape, since it came under my notice in 1833, it has borne the uniform reputation of being in our climate hardy, healthy and productive; but our people having evinced very little enterprize (until within the past three or four years) in the matter of grape culture, it has been disseminated to a very limited extent, and we have now to go to Missouri for an authentic endorsement of its high qualities.

AGE OF GRAPE VINES FOR PLANTING.

(Journal of Agriculture.)

Those about to start a vineyard, or to plant a dozen or two vines for home use, often ask whether they shall plant vines of one or two years' growth. We uniformly reply — *one year old vines, if you can get them.*

There are various reasons for this: 1st. For several years past the demand has been so great, that all vines that had made anything like a fair growth the first year were disposed of, so that only the stunted ones were kept over,

and at the end of the second year they are scarcely up to the size of a thrifty one year old.

2d. Another class of two year old vines are those packed for sale at the close of the first year, and kept out of the ground, waiting for orders, till very late in the season, and the operation of re-planting does little more than sustain life—they do not make a vigorous growth, but are stunted, so that the best of care is required to restore them to a healthy growth.

But if a vine makes a healthy growth for two years, its roots are long, and have attained such size that cutting them for transplanting is a serious drawback on its growth. With our views of the case, we would much prefer the one year old vines at the same price, provided they had made a fair growth.

So far as we know it is the practice of all experienced vineyardists to plant vines of one year's growth.

Peter B. Mead says, in his *Treatise on American Grape Culture* :

There seems to be a prevalent opinion, at least among beginners, that,

for planting, the vine increased in value with its age; whereas the very opposite of this is true. We lay down the general rule that a well grown vine is in its best condition for planting when one year old. There are but few exceptions to this rule, and some of these are only seeming exceptions. The real exceptions are vines that have been grown in large pots or tubs, and even these lose their value beyond the third year. The seeming exceptions consist of plants that have been root-pruned and transplanted when one year old; but these are substantially one year old plants—better if the work has been well done; but if not well done, not so good. * * * A vine three or more years old that has not been transplanted has generally but little value; and yet people very often pay as much for one such vine as would buy a dozen really good ones. They are generally bought under the supposition that they will produce fruit sooner, and more of it; but they do neither.

GRAFTING GRAPE VINES.

Mr. Riehl's remarks (page 18), in everything material, coincide with the instruction given by me in the "School for American Grape Culture" (Saint Louis: Conrad Witter), except that, under no circumstances, I deem a *tie* necessary, as the trouble of bandaging may be saved by a very simple proceeding. If the root appear to be not

strong enough to hold the scion firmly by the force of elasticity, all you have to do is, not to make the split directly vertical, but *oblique* on one side, and shape the wedge of the graft accordingly; then carefully insert the latter, whereupon scion and root will hold firmly together like one solid mass. I follow this plan with full success in all

eases when the insertion of but one graft into the same stock or side root is intended. If the stock be more than a half inch in diameter, I prefer to insert two scions; the thicker I insert first, keeping the split open by the aid of a strong knife, held in the left hand, the thinner last, by pushing it down in the other end of the slit. Generally I succeed in rearing both grafts, which improves the stalk and serves to heal the wound most thoroughly. Sometimes the stock is already so thick, or twisted and knotty, that it is necessary to wholly remove it and use one or several of the smooth lateral roots for the purpose of grafting.

It can not be too urgently recommended to all vintagers to make themselves thoroughly familiar with the practice of *grafting*, it being the easiest, fastest, and least expensive method of testing and diffusing the numerous new grapevine varieties that annually make their appearance. About 16 years ago I received from a friend in Pennsylvania a Concord graft, probably the first that ever crossed the Alleghany mountains. Now the descendants of this one scion can hardly be counted by the millions.

F. MUENCH.

(*Journal of Agriculture*.)

NEW METHOD TO START GRAPE VINES.

As I promised our worthy President of the Grape Growers' Association of our State, I herewith transmit you my experience in the propagation of grape vines:

There are three distinct modes of multiplying grape vines practiced in this country. The first and natural one is, from seed; which, however, is very uncertain as to the result. It takes thousands, perhaps, of seedling vines to produce even a few that will be as good as what we already have. Although, it is the only way to get different, and sometimes improved, varieties, by far the greater part are worthless; but, if we produce one out of a thousand that is in quality nearer to what we want, it will well repay the trouble to try it.

The other way is by layers, which,

when correctly performed, will generally make tolerably good plants; they will make strong vines, with well-developed buds and large roots—to all appearance first-rate plants—but there are several objections to them. The vines are layered in spring, and the shoots make an early start, consequently the vines make a strong growth, but the roots grow later in the season—in June or even July—and then they are not ripened enough in the fall to stand transplanting well: the small fibres are soft and full of sap, and will dry in a few minutes so much, that they will never regain their vitality, if ever so well planted; some kinds will, however, do better than others. Another objection is, that a part of the old vine is attached to it, which will decay from both ends

where it is cut, and the vine will never be as healthy as one properly raised from a cutting. I have also found that vines raised from layers have longer joints and are not as hard to cut, as those from cuttings; but there are some kinds—as the Cynthiana, Norton's Virginia, and others—that are hard to grow from cuttings, so we have to multiply them by layers.

Vines from cuttings are raised in so many different ways, from one bud up to two feet long, that one would think every propagator had his own way. The different methods are so well known that it is unnecessary for me to describe them.

My object is to make known a new method, which was first brought to my knowledge by a notice in the *Horticultural Annual* for 1867, by Mr. Patrick, of Terre Haute, Ind. I have tried it, and believe, from my own results, that it is the best. My cuttings are made with two buds: if they are only three inches long, they will make better plants than any three or four bud cuttings: three to five inches is the best length. They are made in November and tied with willow in bundles of forty or fifty, making the lower ends even; then I dip the lower ends, about one-third of their entire length, in a mixture of clay and sand, thinned to the consistency of cream, to hold moisture; after that, I put them into a frame previously prepared in a sheltered situation—the North side about six inches higher than the South; I put the lower end up—*this is the main point*; then all are covered with three or four inches of soil or sand and clay mixed; after that a good covering of straw and boards to

keep out frost. In the spring, as soon as warm weather commences, the covering is taken off, and glass windows are laid on to warm the top—the natural lower end of the cuttings. This will work like a hot-bed, and callus will be formed very soon, and roots will start by the time the cuttings are set out in the nursery.—Care must be taken, however, not to start them too soon, as the roots grow very fast. The best condition for planting is, when the roots just break through the bark—then they are sure to grow. I have planted Iona and Delaware cuttings only two inches long, and they made good plants, with roots two and three feet long. Good cuttings of Taylor's Bullit had roots, from six to twelve in number, nearly one-fourth inch in thickness, and three and four feet long; all in a circle around the lower end and very seldom any other, where the upper bud was not covered, which makes these plants more convenient for planting than any other—they can be set upright on the floor and will stand up, if the cutting has been set upright in the ground.

This is a great advantage in our prairie soil, as these roots will always be the main roots, at whatever depth they are planted. I planted long cuttings and plants—raised from such, two, three and four, tiers of roots; and, although, at first, the lower roots were the strongest, in a few years the lower roots began to decay, and the upper roots took the lead—closer to the top than convenient for plowing. Our prairie soil will settle down, however loose it may have been prepared, and the roots cannot thrive well at too great a depth. Plants where all

the roots are at the lower end, are better regulated in their depth of growth, and plowing is done with less danger of tearing out roots. I have some Norton's Virginia plants and they do tolerably well, although not as good as others.

Lenzburg, St. Clair Co., Ills.

Dec. 25, 1868.

L. W.

We clip the above from Colman's Rural World, as it contains some excellent suggestions.

The objections the writer raises against layers, are to a certain extent well founded. We will give the objections we have against layers here, and though they differ somewhat from those of L. W. we certainly arrive at the same conclusion that layers are not as good as plants grown from cuttings or single eyes. The reasons we have, may be given in very few words.

1. A layer is not, as yet, an independent plant. It has been attached to the mother plant, has drawn a large share of sustenance from it, and has therefore not been established "on its own footing." A plant from a cutting or single eye, has made all its growth by its own intrinsic and independent vigor, and may be considered firmly established. The layer, being cut from the parent vine, has to conform to new conditions, and sometimes

the change is too much for it, it languishes and even dies. It is like taking a child from the mother's breast, and feeding it at once on meat and bread.

2. The layer has formed all its roots near the surface of the ground. In planting it in the vineyard, you must necessarily plant it much deeper, than it has stood before. Its roots are farther removed from air and light, and it will take it some time to become accustomed to that change. The plant grown from cutting, or single eye removed to the open ground in June, has formed its roots further below the surface, in fact, almost where they will be, when transplanted to the vineyard, therefore is not so much affected.

We know, that good and healthy vineyards can be made from both, layers and cuttings, for we have sufficiently tried both. But our preference would be for the latter.

The method of reversing the cuttings in the hot bed certainly deserves to be tried. We have formerly tried it in open air, with very good results. We should be glad to hear from L. W. further particulars, especially in regard to the varieties he has tried to propagate in that manner.

He is also correct in the advantages which plants grown from short cuttings present over those grown from long cuttings, as generally practiced by our German and French vine dressers. The short cuttings will make stronger and better ripened roots. Ed.

GRAPES AND GRAPE CULTURE.

The characteristics of some of the most popular varieties of grapes, and their adaptability to certain soils and locations, should be considered naturally in the pursuit of our subject; and the present paper will be devoted to their consideration.

While it is true that a few varieties of grapes seem to flourish, and yield satisfactory results, in any soil of moderate fertility, and in almost any lo-

cality within the limits of grape-growing, it is also true, that there are many others which seem suited only to special soils and locations. There are others also, which partially succeed almost everywhere, but only do well where their individual and peculiar wants are regarded.

Of the first of these three classes, the grape which seems to adapt itself most generally to all kinds of soil

and to all situations and condition, and the most perfect type of its class, is the Concord; and, notwithstanding its inferiority as a fruit, it is more popular, and probably more extensively planted, than any other variety in the Union. This is mainly owing to the healthy, hardy and vigorous character of the vine itself, enabling it to bear much of ill treatment and neglect, and still yield its generous fruit in abundance; and though the grapes are not of fine quality, they are very acceptable to those who can not or will not fulfill the conditions necessary to produce those which are better.

Another variety of this class, though usually regarded as not equal in quality to the Concord, is the *Hartford Prolific*. In hardiness, healthiness, and general habit of growth, it is, perhaps, equal; and has the advantage of earlier ripening, which enables it to be grown further North than the Concord will mature.

Of the newer varieties that seem entitled to a position in this class may be mentioned *Ives's Seedling*, which originated near Cincinnati, O., and has already obtained a high local reputation as a red-wine grape. In habits of growth and foliage, it is much like *Hartford Prolific*. In quality as a table-grape, I regard it as intermediate between a Concord and *Hartford*, though more pulpy than either of those varieties. Its period of ripening is later than the Concord, although it is colored somewhat earlier.

The *Ives* has recently received the highest award—three-hundred dollars in silver plate—offered by the Longworth Wine-House “for the best gene-

ral wine-grape for our whole country”; which will doubtless add much to its popularity. I may also here mention, that to the Concord was awarded the the second and third premiums—a silver goblet, valued at a hundred dollars—“for the best wine-grape for Ohio” and a silver cup valued at fifty dollars, “for the best table-grape of our whole country.” I do not propose to criticise or remark upon the decisions of that committee at this time, but I do hope to see the day when such grapes cannot take such premiums.

The above are all black grapes. The principal faults of the Concord as a market variety, aside from its quality, are rapid deterioration after being taken from the vine, and a tenderness of the skin that renders it very easily injured by handling. The *Hartford* often falls easily from the bunch, as soon as fully ripe. The *Ives* appears free from these defects, but, so far, seems less productive than either of the others named. In favorable seasons, all these varieties remain healthy, and untouched by mildew or rot; and in unfavorable ones, suffer less than most others.

A white grape of recent introduction—a seedling from the Concord, named *Martha*, so far as I can judge—from an experience of about six years—will be found eminently worthy to join this class, as it has all the characteristics of hardiness, vigor and healthiness of root, vine and foliage of its parent, with the addition of being a grape of much higher character. It is also earlier in ripening than the Concord, which will give it a wider range than that variety. In flavor

and quality it is also much more refined and delicate. It is in color a pale, yellowish green, with thin, white bloom; skin thin, but tenacious; flesh tender and melting, with but little pulp; flavor very sweet and rich, slightly vinous, with a little of the native aroma, which is, however, more palpable to smell than to the taste; seeds few and small; size of bunch and berry medium, but improving each year, as vines grow older. The present season gave bunches four and a half inches long, and berries full three-fourths of an inch in diameter.

It has, thus far, shown no indication of either rot or mildew, and I venture to predict for it even greater popularity among white grapes than the Concord has achieved among the black ones; for, all things considered, I know no white native grape of equal value, or for which I would exchange it. It has also been tested in Missouri the past season as a wine-grape, and found to produce a white wine of very fine quality; the must indicating 92° by Oechsle's scale.

(To be continued.)

THE MEETING OF THE ILLINOIS GRAPE GROWER ASSOCIATION AT PEORIA, ILLS.

The meeting assembled at Parmely's Hall on Thursday morning, Feb 18, and was called to order a little after 11 o'clock. On motion of Mr. Jacob Littleton, Judge H. M. Wood was chosen Chairman, and William Rouns-ville Secretary. The meeting was well attended, and the members showed a lively interest in the proceedings.

The President of the association Mr. George C. Eisenmayer, was not present, but sent a communication, which our readers will find in another number. Communications were also read of Hon. Fred. Muench, of Warren Co., Mo., Mr. G. Morlot of Hancock Co., Ill.

An animated discussion took place about the advantages and disadvantages to be derived from the practice of gallizing wines, the purists con-

tending that nothing was *wine* except the unmixed fermented juice of the grape; the followers of Dr. Gall holding the opinion, that grape-juice, which was deficient in sugar, and had an excess of acid and tannin, could be improved by the addition of sugar and water, and made just as *pure* a wine, as the natural grape-juice. The discussion about this point ended, as it generally does; with every one retaining the same opinion. We believe that only practical experience will satisfy the unbelieving of the correctness of Dr. Gall's system, and that the results will convince the most sceptical. The vintner makes his wine to sell; if he finds that the pure grape-juice is of such indifferent quality that it will not sell, and that properly gallized wines will sell, he will come to gallizing as a natural consequence.

Among the zealous purists were Messrs. Johnson, Worthen, Morlot and Hake. Among the disciples of Dr. Gall; Messrs. Dr. Studer, Streibich, Bauer and Husmann.

On motion the following Committees were appointed to test the wines on exhibition.

On motion the following committee was appointed to examine the Catawba wine: Messrs. Schmer, Bickler, Wiesenhafer, Schembs and Mouse.

On Concord wine: Messrs. Bauer, Erler and Heppler.

On Delaware: Messrs. John Flanagan, Husmann and Bryant.

On Nortons Virginia: Messrs. C. Eisenmeyer, Streibich and Haungs.

On Clinton and all other samples of white wines, same committee.

A committee was appointed to ascertain from exhibitors the character of their wines and the manner of its manufacture. Messrs. E. G. Johnson, Husmann, and Meuch were appointed.

In the afternoon the different committees proceeded to sample the wines on exhibition, of which there were nearly 150 samples, comprising a good many varieties, and many grades of each, from very poor to excellent. As a general collection, the wines shown were creditable, though we do not think they could quite compare with the exhibition held at Hermann, in May 1868. To our taste the Illinois wines shown on the occasion, had less body, less color, and less aroma than our Missouri wines, some showing a deficiency in acid, others an excess of it. But time and practice will remedy this, and the earnest zeal shown by

our Illinois brethren, is bound to have its beneficial results.

The committees appointed to report upon the awarding of premiums upon samples of wine, reported as follows:

CONCORD WINE.

Vintage of '66, Poeschel & Scherer. No competitors.

Same persons, best of vintage of '67.

Vintage of '68, F. Bauer best, and H. A. Dietzel 2d best.

DELAWARE.

No. 8 Montrose, Iowa, very fine. No. 12 Mr. Eckert, of Nauvoo, 2d best. No. 11, Mr. Wasserzieher 3d best.

Vintage of '67, Poeschel & Scherer, of Hermann, Mo., best; F. Bauer of Nauvoo, 2d premium.

CATAWBA.

Vintage of '68, Judge Bryant, No. 1; Dr. Studer No. 2; F. Streibich, No. 3.

Vintage of '67, Christ. Becklau, of Burlington, No. 1; A. H. & G. B. Worthen, of Warsaw, No. 2; Neusch Bros., of Winchester, No. 3.

Vintage of '66, H. Deitzel, of Carlisle, No. 1; Judge Bryant, No. 2.

Vintage of '65, August Berger, of Nauvoo, No. 1; A. H. & G. B. Worthen, No. 2.

OTHER WINES.

Norton Virginia Seedling, John Bauer, of Nauvoo, '68 first premium.

Bluffton Wine Company, '67 first premium.

Ives Seedling, '68, C. Eisenmeyer, first premium

Isabella, '68, Montrose, Iowa.

Rulander, '67, C. Husmann.

Cynthiana, '67, G. Husman. Reported next best to the Virginia Seedling.

Herbemont, '68, P. H. Eisenmeyer, of Mascoutah

Same, '67, Poeschel & Scherer.

Same, '65, Poeschel & Scherer.

Diana, '67. Fair wine, but not better than the Catawba.

Rogers Hybrid No. 1, '67, Geo. Husmann.

Iona, No. 1, '68, Peter Eichhorn.

Clinton, '68, Montrose, Iowa, first premium; E. Eisenmeyer, Mascoutah, second premium; G. Marlot, third premium.

Clinton mixed, '67, Montrose, first premium; Bluffton Wine Company, second premium.

GRAPES.

Mr. Peter Eichorn, of Spring Bay, was the only person who had any grapes on exhibition, and they were finely preserved. He was awarded the first premium.

Some discussions took place upon the best methods of cultivating, pruning and training, but nothing very striking or new was elicited. Mr. Grove moved to have a committee appointed to visit the different vineyards in the State, and report on their condition, ascertain the mode of treatment &c. After some discussion pro and con, the motion was adopted.

The members of the meeting then adjourned to the banquet. A beautiful collation had been prepared by Mrs. Bosche, to which the gentlemen did ample justice. The wines which had been furnished for the occasion, disappeared rapidly, and the utmost cordiality and good feeling prevailed. This is in pleasing contrast with the resolutions passed by the Lake Shore Grape Growers Association at Cleve-

land, by which wine is excluded from the exhibitions of that society.

Were we disposed to criticise, we would find fault with the manner in which the business was conducted. It was in our opinion, an unjudicious arrangement, that the banquet was held in the same hall in which the discussion took place. The clatter of forks, knives and dishes all day, and the continual passing and walking, made it difficult for the speakers to make themselves understood. But our brethren are evidently new at this business, and their zeal displayed in the cause give promise of great improvement. They were evidently anxious to do all in their power to make the stay of their visitors agreeable to them; and we shall remember with pleasure the many agreeable acquaintances formed there, as well as the kindly feeling exhibited, which made us feel at home among them at once. We hope to meet many of them again at Alton, at the next meeting of the Mississippi Valley Grape Growers Association in April.

Ed.

The Spring meeting of the Mississippi Valley Grape Growers Association will be held at Alton, Ill., on the 13th of April next. All grape growers are invited to attend, and bring samples of their wines. A very liberal premium list is now in preparation, and we hope that the meeting will be a pleasant and profitable one. We shall give a more detailed plan of it in our next No.

THE CHEMISTRY OF WINE.

By Chas. H. Frings.

(Continued.)

Under the same circumstances, however, the process of fermentation at the above mentioned temperature (50—90 F.) corresponds exactly with the degree of heat; that is to say, the greater the heat, the faster the process of fermentation.

The density of the liquid has also considerable influence on the process of fermentation. The more concentrated the liquid, the slower the process of fermentation.

For the process of fermentation as it should be, it is of the greatest importance, to let *large* quantities ferment together. The larger the quantity, the less is it exposed to the influence of the cool atmosphere, which always interferes with the process. Besides this, less outward heat is needed for greater quantities, as a greater degree of heat is created in large than in small vessels.

Experience has taught, that the following degrees of heat are required for the regular process of fermentation:

100 Gallons	85—90° F.
250 "	75—85° "
500 "	70—75° "
750 "	65—70° "
1000 "	60—65° "
2000 "	50—60° "

Before we explain the changes, to which the grapejuice is subjected by means of the spirituous fermentation, we will first give a careful analysis of the component parts of the grape.

THE INGREDIENTS OF THE GRAPE.

These may be described as juice, skin, seeds and stems; or according to their utility for the production of wine, as *necessary* or *superfluous*; again in relation to wine, as such, which are contained in wine as well as in the grape, or as such, which are contained only in one or the other, which are therefore, during the process of fermentation either separated, decomposed or newly produced. The chief ingredients of the grape are

Grape sugar,
Cream of tartar,
Tartaric acid and other acids,
Gluten or albumen,
Pigment or coloring matter,
Flavor.

Occasionally, the grape contains a quantity of other ingredients, which it draws from the soil, especially *salts*, *vegetable soil* and *metallic elements* producing either a pleasant or unpleasant odor, and finally traces of all the component parts, which the soil contains on which it grows.

These ingredients, however, are not necessary for the production of wine, although by theorists much importance is attributed to one or the other of them, which has been accidentally found in wine, or has been added to it.

Of the ingredients of the grape the sugar is transformed entirely, or at least almost so, into alcohol or carbonic acid. Besides this, the par-

ticles containing carbonic acid and the flavor are subjected to a change by means of fermentation, in consequence of which they are partially secreted. By the same process, potassa and cream of tartar as well as tartaric lime is separated, when the alcohol in the wine increases, and in consequence, the solubility of the different kinds of salt is diminished.

The skin of the grape contains *tannin*, the color of which, if exposed to the air, as for instance in drying the grape for raisins, turns light brown. The skin contains besides astringency tannin and in some kinds of grapes *coloring matter*, which through the influence of the acids turns red, and also on the outer skin "wax" or rather a *coating resembling wax*.

The stems contain the same ingredients, much less of coloring matter and wax, but yet, however, to a small degree, the acrid tasting substance. In many completely ripened grapes from 6 to 7 per cent *tannin* is found.

The seeds contain *tannin* and *oils*, both in the greatest quantity when the grape is ripe. In the average they contain 10 per cent oil and 7 per cent *tannin*..

The proportion of the different component parts of the grape juice differs according to the state of ripeness, the variety of grape, the quality of the soil and the temperature during the year.

So far, the following component parts of the grape have been discovered viz :

Grape, sugar, gum, gluten or albumen, tartaric acid, pyroracemic acid, malic acid, tannin, phosphoric acid, sulphuric acid, muriatic acid, sebacic acid,

potassa, natron, lime, magnesia, argillious earth, sesquioxvd of iron, sesquioxvd of mangae, chlorine, common salt, gravel, coloring matter and water.

One part of these acids is connected with the alkali of the soil; for instance: Tartaric acid in potash as cream of tartar; sulphuric acid in the potash as sulphate of potash; phosphoric acid in clay as aluminate of potassa &c.—In this connection, the acids communicate hardly any taste, as acids, to the wine, with the exception of cream of tartar, which as bitartrate of potassa still tastes sour, only the *vaporous* acids are of any account, when the more or less sour taste of the wine is to be considered. On the contrary, the combinations of acids and alkali, earth or metals (which combination is called "salts") have no distinct influence on the flavor of the wine, which in Germany is called the "aroma." By this name the particular taste of the juice of the grape is distinguished, according to the soil on which the grape was grown. So for instance is slate bottom distinguished by the peculiar taste. The "Riesling," grown on the borders of the Rhine, is in taste very different from that grown on the banks of the Mosel or at the Cape of Good Hope. This difference is produced merely by the difference in the component parts of the soil. According to the predominance of either component part the taste, and often even the smell of the wine changes.

The total amount of these fungi is very small. Only from $1\frac{1}{2}$ to $3\frac{1}{2}$ parts were discovered in 1000 parts of grape-juice.

In regard to the *vaporous* acids, the quantity of the same varies exceedingly, and according to the degree of ripeness of the grape.

Observations made, regarding this, have proved the fact, that, as the ripening progresses, the "malic acid" is diminished and the "tartaric acid" is augmented correspondingly. Observations made in reference to this matter have also proved, that in accordance with the progress of ripening the quantity of "malic acid" is reduced and that of "tartaric acid" augmented, but that in the same proportion potash and "tartaric acid" is combined, so, that the effect of the whole process would be, that with the progress of ripening, the *vaporous* acids would diminish.

To be continued.

The Inauguration of the Cellars of the Bluffton Wine Company, on the 15th of February, was a very pleasant affair. Some five-hundred invitations had been sent out, and we were glad to see such a number of the friends of good wine, desirous of putting the native wines to the test. Our friend, Charles F. Schneider, had set a capital lunch, which everybody seemed to enjoy. As to the quality of the wines, their rapid disappearance, we think, was the best proof that the guests found them palatable. Among the wines which seemed to be especially appreciated, were the Catawba of 1867, which every one seemed to enjoy, the Cynthiana, Herbemont and Norton's. Missouri Port also found its admirers among those whose taste

leads in that way. From 11 o'clock in the fore-noon until dark the Cellars were constantly filled, and the guests seemed to take a reluctant farewell when the did go.

Numerous toasts were drank, and neat little speeches made in response to them. Among the speakers we noticed Hon. Henry T. Blow, Hon. Thomas Allen, Hon. Norman J. Colman, Dr. B. T. Edwards; Gen. McNeil, Mr. R. S. Law, of Galena &c.

Among the hundreds present, it would be impossible to remember all. Gen. McDougal, medical Purveyor for the army, expressed himself very favorable on the Nortons Virginia and Missouri Port, and assured us that he was gratified to see them introduced for medical purposes. Our indefatigable friend, Dr. Philip Weigel, one of the best judges of wine native or foreign, declared himself fully satisfied with the wines there distributed, as also Dr. Morse, Editor of the Journal of Agriculture, and one of the most critical, and best of wine tasters.

Even the chiefs of our importing houses, whom we were glad to see among our visitors, were well pleased with what they saw and tasted. We noticed among them Mr. M. Schuster, of the well known firm of Schuster & Schweikhardt, Mr. F. Fuchs, and many others. Messrs E. Preetorius, Wm. D'Oench, Col. Flad, Gen. A. J. Smith, Hon. Geo. Wolbrecht, Gen. Nichols, Gen. J. B. Gray, Dr. Spiegelhalter, &c.

The Cellars lighted up to their full length, with the jovial faces of the visitors who thronged them, presented a very animated scene, and the large and smaller casks filled with the

greatest assortment of American wines, comprising about 30,000 gll's. gave evidence of the importance which this branch of domestic industry has already acquired.

The next morning, we were agreeable surprised by a delegation of ladies, the representatives of the agitation for womans rights and female suffrage. Mrs. Elizabeth Cady Stanton, Mrs. Phelps & Miss Cozzens, escorted by Hon. H. T. Blow. As these ladies also advocate the cause of temperance, we consider it very appropriate that they should visit this, as we flatter ourselves, one of the most active temperance institutions in the State. We are sure that they would have concurred with us in this opinion, had they met with as many of those who

were at the cellars the day before, and had seen them all good natured and joyous, following their every day occupation, a sure sign that good wine is a promoter of health as well as happiness.

May this be only one of many similar establishments, which we hope to see established and multiplied throughout the Country, and which are a sure token, that civilization, thrift and development of our natural resources, have taken the place of semi-barbarism, slavery and intolerance, prevalent in our State but a few years ago. We hope soon to see the day, when every laborer can enjoy his glass of good, cheap, native wine, and when America will be counted among the wine exporting countries of the earth.

LAKE SHORE GRAPE GROWERS' ASSOCIATION.

Although the Lake Shore Grape Growers' Association is but about four year old, it already reckons nearly three hundred members, and the beneficial effects of the annual meetings, discussions, grape exhibitions and visits to various vineyards to observe the different modes of cultivation are already noticeable in the vineyards of the members, and in the general culture of grapes along the whole lake shore. Several visits have been made during the past year, including trips to Collamer, Avon point and Dover Bay, and during the month of October an excellent grape show was held in Painesville.

The fourth annual session of the as-

sociation commenced on Wednesday, at Temperance Hall, No. 184 Superior street. The meeting was called to order at half-past eleven o'clock by the president, Dr. J. W. Dunham of Collamer, who delivered the annual address. In his remarks he referred with tender regard to the death during the year of two of the members, Dr. E. Taylor, of Cleveland, and Mr. J. A. Requa, of New York state. He briefly reviewed the transactions of the society since the last annual meeting, of the visits to different points, of the condition of the grapes and vines throughout the district at various times, and of the circumstances which injured the crop, the blight and frost.

Members were cautioned to be careful to whom they ship grapes, as sharpers frequently take advantage of producers to swindle them. He stated that the committee appointed two years ago to report on the "Physical and moral effects of wine growing in the United States" would not be at this meeting, owing to other pressing engagements. After mentioning several important topics which would come up for discussion, Dr. Dunham concluded by expressing the hope that the present meeting would prove as interesting and profitable as the previous sessions.

A report was read from the committee appointed to consider the subject of naming the varieties of grapes known as Rogers' hybrids and designated by numbers, which stated that the originator of the grapes, Mr. E. S. Rogers, of Salem, Massachusetts, has expressed himself as quite willing to accept any names the society may choose.

The treasurer's report shows that the receipts of the association during the year were \$293.27, and the expenditures \$219.75, leaving a balance in the treasury of \$73.52. The total indebtedness amounts to \$201.60, which after deducting the amount of money on hand would be \$128.08, most of which is for premiums awarded at the exhibition.

The association then adjourned until half-past one o'clock.

AFTERNOON SESSION.

The association resumed business at two o'clock in the afternoon.

The report of the committee which had corresponded with Mr. Rogers in reference to naming his hybrid grapes,

was taken from the table and accepted, and the following resolutions adopted :

Resolved, That the thanks of the Lake Shore Grape Growers' Association are hereby tendered to Mr. E. S. Rogers for the expression of his willingness to acquiesce in the desire of the association to substitute appropriate names in place of numbers, to designate the different varieties of grapes originated by him.

Resolved, That the secretary be directed to communicate to Mr. Rogers the action of the association, and to respectfully request that he determine upon and report names for such varieties of the grapes known as Rogers hybrids as he thinks worthy of permanent cultivation, if possible, in time for publication in the forthcoming annual report of the association.

The subject of the best kind of box for berries and grapes was taken up. The secretary spoke of the boxes on exhibition at the late fair and mentioned the excellencies of several kinds. He referred especially to the wooden paper covered box with moveable bottom manufactured in this city as possessing superior qualities, although expensive and of such a shape that the boxes cannot be economically packed in crates. Another box with moveable top, also, but fixed bottom, was mentioned as being good, one advantage being that such boxes can be closely packed in crates.

A square, double-lap cover box of white wood was spoken of, but objected to because it was thought that it would warp and become unsightly by the time it reached market.

A gentleman said that he thought a cheap box, not to be returned, would

be most economical, because venders neglect or forget to return the boxes. He stated that in his region this plan has been adopted after trying the return boxes for a long time. He said that grapes in fancy boxes bring a higher price than those in plain ones. He thought that plain, cheap boxes, ornamented by stencil marks, as a producer may do in leisure hours, the most profitable.

NAME CHANGED.

A motion was then made to change the name of the association so that it shall be known hereafter as the Ohio Grape Growers' Association, and unanimously carried.

INVITATION FROM A SISTER SOCIETY.

Mr. Bartholomew, in behalf of Dr. Spalding of Missouri, extended an invitation to members of the association to attend the meeting of the Mississippi Valley Grape Growers' Association, to be held in Alton, Illinois, on the 13th of April.

GOVERNMENT PROTECTION.

Mr. A. J. Caywood of Poughkeepsie, N. Y., stated that he had prepared and sent to Congress a memorial requesting the passage of an act which shall in some way protect originators of new varieties of fruit and stimulate experiments in that direction. He remarked that members of Congress seem in favor of such a measure, but that a pressure of other business has deferred action upon it.

WINE AT EXHIBITIONS.

At the society's last exhibition it was noticed that temperance people refused their patronage on account of the large display of wine on that occasion. Therefore, that the honest views of people should not again be

offended it was moved that thereafter no wine be received at the exhibitions of the association. A number of speeches were made on the subject.

The points raised in favor of excluding the exhibition of wine were, that this is not a wine association but a society to learn as much as possible about the culture of grapes; that there is in the state a society for the special purpose of promoting the manufacture of wine to the exhibitions of which wine should be taken; and that the testing of wine at fairs produces a state bordering on intoxications at times when the wine is not pure. It was argued on the other hand that too many grapes are already raised for consumption in the form; that certain kinds of grapes are good only for wine; that the manufacture of wine forms a considerable part of the business of extensive grape growers, and that the making of pure wine should be encouraged by the society as an antidote for intemperance. The motion, however, was favored by a large majority of the members and when put was carried almost unanimously, only one voting against it. Therefore, in the future, no wine will be displayed at the annual exhibition of this association and the clause in the constitution which provides for the showing of wine will be erased.

OFFICERS ELECTED.

The next business was the election of officers for the ensuing year, and after the nominating and balloting the following were declared chosen.

President—Dr. J. W. Dunham of Collamer.

Vice President—George W. Campbell of Delaware.

Secretary—M. B. Bateham of Painesville.

Treasurer—Rev. R. H. Leonard of Cellamer.

Directors—Addison Kelley of Kelley's Island, Colonel D. C. Richmond of Sandusky, J. Terrel of Avon Point, Captain J. Spalding of Cleveland, J. D. Clark of Lancaster, J. E. Moltier of North East, Pennsylvania, Judge A. S. Moss of Fredonia.

A vote of thanks was returned to the officers of the past year, after which the association adjourned.

During the day Mr. A. Sexton of Sandusky exhibited some wine of his own manufacture, which for purity and excellency of flavor can hardly be excelled if indeed equaled.

Some grape boxes, manufactured by Foote, White & Co. of this city, were also shown. They are of the kind mentioned in the morning session as possessing advantages over any other kind in that the bottoms are moveable and that no nailing is required. A crate made by the same firm, noticeable for lightness and strength combined, was also on exhibition.

At about ten o'clock the association adjourned until morning.

We copy the above from the Cleveland Leader, being extracts from the first days transactions of the Society.

We are sorry to see the motion prevail to see *wine*, this noblest product of the grape, henceforth excluded from the exhibitions of the society. We have always looked upon the introduction of good, light wine as the best *temperance* movement which could be introduced; we have hoped to see

its use become universal throughout the land, and drive out the curse of so many formerly happy families, whisky and brandy. It is a fact apparent to every traveller, that drunkenness is but little known in wine growing countries, and that their inhabitants are characterized by their happy and joyous dispositions.

We confess that we have no sympathy with that mock morality, whose tender conscience is offended at the mere sight of a bottle of wine; nor with any laws, which forbid the use of liquor, simply because some people will make beasts of themselves, by indulging in them to excess. Let our State Legislatures pass strict laws against drunkenness and disorderly behavior, and let them be rigidly enforced, but let us not proclaim to the world that we are a nation of men unfit to govern themselves, and that the *law* must *force* us to abstain from the use of spirituous liquors, to prevent our becoming a nation of drunkards. We are happy to say, that the Legislature of Missouri has passed a law, permitting every grape grower to sell his own produce, in whatever quantity he pleases. Let other States follow this example; let grape growing and wine making be encouraged by them, and we will in time become a *temperate* people. There is a wide difference between *temperance* and *total abstinence*; as wide a difference as there is between the glutton, who will overload his stomach knowingly, and the temperate eater. To the first, the gifts of God become poison, by indulging in them to excess; to the second, they impart bodily vigor and health, because used in moderation.

But *because* a number of men are gluttons, and gorge themselves to excess, thereby destroying their health, shall we therefore forbid eating *altogether*? With just as much justice as in this case, can we force the man who drinks his few glasses of wine daily, and thereby improves his health; to abstain from them because his neighbor makes a beast of himself, by drinking whisky to excess.

We are sorry for our Ohio brethren, if with them "the tasting of wine at fairs produces a state bordering on intoxication." The trials of wine in this and our neighboring State, Illinois, at which we have been, could safely have been held even in "Temperance Hall" so little of intoxication was seen there.

How a society of grape growers, who will all be necessarily compelled

to be wine makers, can pass such a resolution, we are unable to see. They need not flatter themselves, that they can market *all* their grapes; many imperfect bunches not fit to market, will remain, which they must either make into wine, or loose altogether. Even from a religious point of view, their doctrine is continable, for our Saviour himself recommended, by His example, the use of wine. We do not wish to be better than He was, and are content to leave this "excess of glory" to the "total abstinence," not "temperance" men.

We will recur to this subject again in one of our future numbers, and hope to do our share to abolish this "mock morality" and introducing true "temperance" i. e. the temperate use of Gods choicest gift, *wine*, in its place.

Editor.

EDITORS' LETTER BOX.

J. B., Painesville, Ohio.—You enquire where our book "Grapes and Wine" can be had, and whether a German edition will be published soon? We have no interest in the sale of the book, but you can obtain it directly from the publisher, F. W. Woodward, 37 Park Row, N. Y. Most of the Agricultural warehouses keep it for sale also. Its price is \$1.50, upon sending this amount to the publisher, it will be sent post paid. We have not yet published a German edition and hope by the establishment of a Journal like this to do more for the advancement of grape culture, than we could by any new edition of the

book. We are progressing so rapidly in grape culture, that a book, however practical it may be to day, will be old and stale, and behind the times in a few years from now, while a Journal will always communicate the latest experience, and can keep its readers posted in grape culture.

JOHN BALLINGER, Gallatin, Mo.—Yo wish to know where you can obtain wire for trellis? Saylor & Co., Market Street, St. Louis, also Link, Garrels & Co. No. 1720 Carodolet Ave. St. Luious, keep all varieties of wire, and would perhaps be your nearest point.

C. BUTER, Harrisburg, Pa.—You wish to know where the best lands are for those who intend to follow grape growing in Missouri? There are many good locations throughout the State, but the *best* are generally on the bluffs along the principal streams. Of all the locations we know, the lands on the North side of the Missouri River, in Montgomery and Calloway Counties, commencing a few miles below Bluffton and extending above Portland, a stretch of about ten miles, comprise some of the choicest grape lands in the State. Around Portland, lands are yet comparatively cheap, ranging from \$8 to \$30 per acre, and as most of the farmers followed tobacco growing for a number of years, and by the fall in the price of this crop have lost money, there would be an excellent chance now for a colony of enterprising vintners to purchase partly improved lands very cheap. Portland has an excellent landing, is a village of some 60 houses, and there is every probability of a rail-road being built through there very soon. Besides, the establishment of the Bluffton Co. about 5 miles below, furnishes a ready market for their grapes to all who are not yet provided with

cellars and casks to make wine. Other locations may offer as great advantages, but of these we know positively.

G. H. M., Balt. Co. Md.—Do not fear, because the *Labrusca* generally grows in swamps, that underdraining would hurt your soil. It is the best means to keep the soil moist, when dry weather sets in, and thoroughly drained when it is wet. Your selection of varieties is ample enough, and most of the varieties you name will succeed almost any where. With us here, frosts are not more prevalent late in Spring or early in Fall on Northern slopes than on Southern, although they may be more severe in winter. You must always consider, that *general* rules will not apply in *every* instance, and should never be followed out to their extremest consequences.

H. A. COLLINS, Anna, Union Co., Ill.—The works of Dr. Gall have not as far as we know, been published in the english language. You will find extracts from them in the Patent Office Reports of 1860, which will give you a good insight into his method.

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
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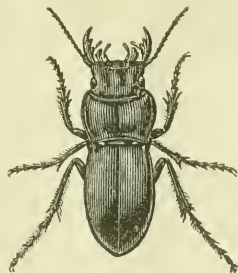
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THE GRAPE CULTURIST.

VOL. I.

APRIL, 1869.

No. 4.

THE VINEYARD.

WORK FOR THE MONTH.

In April, most of the operations discussed in the March number, and not performed or finished in that month, may be continued. Making trellis, tying, planting, plowing and hoeing, layering, etc. The sooner these operations are performed, however, the better it will be. Always try to be ahead with your work, especially in Spring, for when the vines once begin to grow, you will have enough to do with summer pruning, tying the young growth, destroying weeds, and keeping your ground in order. With one hour's labor done in advance you may save the work of days, when you have once got behind. The old adage, "A stitch in time saves nine," could easily be remodeled and applied to vineyards. Laggards had better never commence grape growing; it will certainly *not pay for them*. But, if the diligent vintner should, from causes beyond his control, get behind with his work, our advice is to him, "Try and get additional help, until you have caught up again, for it will be an immense saving of labor, time, and money in the end.

Grafting may still be continued, even into May, but you must take care to keep the scions in a cool place, and in a dormant position. Covering layers may be done as soon as the young

growth has started about a foot, which, in our latitude, will not be until the middle of May. In the South, no doubt, April is the time, and as we try to write for the *whole country*, we shall often describe the necessary operations ahead of time for northern localities, always describing the stage of growth, however, so that they also can easily know when it should be done. Cover with well pulverized earth, about two inches deep over the old cane. If you can mulch with spent tan or saw-dust, it will be a great benefit to the plants during the heat of summer, and assist the formation of roots.

For the South, *summer pruning* will also commence during April. But, as this is a *very important* operation, we have tried to discuss it more at length in a separate article, to which we refer our readers.

Surface drains should be carefully cleared of all obstructions, and new ones opened where necessary. As soon as weeds show themselves, the plow and hoe should be resorted to again, and the ground kept in a mellow and friable condition. But do not work the ground *when wet*; it will act like poison on the vines, and you can not again get the ground into the same condition during the whole summer.

ESSAY, READ AT THE GRAPE GROWERS' MEETING AT PEORIA.

By G. C. Eisenmeyer, Mascoutah, Ill.

MR. PRESIDENT AND GENTLEMEN: It seems that enough has been said on grape culture, enough essays written, and books enough printed, and to say any more would be a useless effort. Still there is room for discussion, and from year to year there are new ideas developed and new improvements made. There are only a few outlines to be laid down as general principles. In grape culture, the great secret of success depends, in a great measure, on the locality, selection of kinds of grapes, and the exactness and industry of the grape culturist. The old adage, "Plow thorough and deep while sluggards sleep, and you will have corn to sell and to keep," applies better in grape culture than in any other avocation.

We know of but few varieties that can be recommended for general cultivation. The Catawba has lost its pre-eminence by its being too subject to defoliation before the grapes are ripe, and to mildew and rot. The Concord is at present the grape for the million, but we must have a better grape than it is, because it cannot, under all circumstances, be recommended. It is deficient in saccharine properties by 10 to 15 degrees on the scale, according to season and locality. Norton's Virginia cannot be well recommended for a northern latitude, neither will it do well on the Islands of Lake Erie, nor on the Lake Shore. It is reaching its northern limit about this region (Peoria) of country. Heribemont, Lincoln, Elsinburg, and a few others, are evidently best adapted

to a dry southern climate, and reach their northern latitude about Alton. Taylor Bullitt is not a prolific bearer, as a general and almost universal experience teaches us to our sorrow. I did, however, see it produce an abundant crop last year, on a place in Clinton county, on the slope of an Indian mound. Should the same vines bear as abundant a crop this year, then I will send some of the soil to Champaign and Washington for a closer examination and analysis. That splendid little grape called Delaware will only do well in few peculiar localities. Diana partakes of the same nature and diseases as the Catawba. Hence our valuable varieties are narrowed down to but few kinds of grapes. However, I should have mentioned Hartford Prolific as one of our hardy and early valuable table grapes. Of the Ives we know too little as yet. It is believed to be a valuable grape.

Preparation of Soil.—This is an open and wide question. The European mode is, as a general thing, too slow and costly in this country, where labor is, and will be, high; and for Concord, Clinton, Hartford Prolific and Ives, not necessary; on the contrary, the ground, plowed fifteen to eighteen inches deep, is better for those varieties than when the ground is trenched twenty-four to thirty inches deep. Those varieties are inclined to root near the top soil, and near the sun. While Norton's Virginia loves to go down deep; and I would invariably say, trench for the Norton, and plant on a southern or eastern slope.

Fall and winter pruning will depend a great degree upon the healthiness and vigorous growth of your vines. No general rule can be laid down. If you leave too much bearing wood, your grapes will be small, the bunches loose, and imperfect in saccharine properties. If too little bearing wood is left, you will stimulate a surplus and unnecessary growth of wood, and will not obtain enough of grapes. Hence every variety of grapes, as well as locality, will teach you this, and lead you to the proper treatment of your vines. Summer pruning is as important, if not more so, than any other part of grape culture. By judicious summer pruning at proper times (which begins with the growth of your vines in the spring, and should end about the middle of July) you aid materially the natural perfection of your grapes. Perhaps I ought to say artificial instead of natural, because it is by superior knowledge and that we are led to success in grape culture. True, large and compact bunches of grapes are only obtained by intelligent and persevering industry. This work is light and agreeable, and well adapted for old men and women, as well as boys and girls, if once laid hold of in good earnest.

Planting.—I plant six by eight for all of our vigorous growers, and four by four for slow growers, and train to ellipses of the vines, attached to posts sixteen or eighteen inches apart. I use wire of the numbers ten, eleven and twelve, and find it cheaper and better in the long run than stakes.

In accordance with the requirements of your meeting, that exhibitors should make statements of their success in the past three years, in regard to the

amount of wine made, and the price obtained for the same, I will state that the average yield of my Norton's Virginia was 200 gallons per acre. Concord and Herbemont 500 gallons per acre each. Prices obtained therefor, at my home and neighborhood markets, which I as yet was never able to supply, was \$3 for Norton and \$2 for Concord. This year I am offering my Norton at \$2.50 per gallon, and Concord at \$1.50 per gallon, of which you have samples on your tables. Herbemont is not sufficiently known as yet, but believe it will sell at from three to four dollars per gallon.

The following is a list of grapes under cultivation in and near Mascoutah :

Norton's Virginia, Concord, Clinton, Herbemont, Hartford Prolific, Taylor, Cassady, Rulander, Rebecca, Diana, Minor Seedling, Canby's August, Delaware and Catawba, Ive's Seedling and Blood's Black.

The following I consider valuable, and worthy of cultivation : 1st, Norton's Virginia ; 2d, Concord ; 3d, Herbemont ; 4th, Hartford Prolific, as a table grape especially ; 5th, Rulander ; 6th, Ive's ; 7th, Taylor. The balance worthless, or nearly so, for our soil and climate. The above named vines are planted on twelve acres of land.

In the grape region of Jackson county, at Makanda, we have under cultivation the following named varieties : 8,000 Concord, 4,000 Norton's Virginia, 800 Clinton, 200 Herbemont, 200 Delaware, 1,500 Hartford Prolific, 500 Ive's North Carolina Seedling, 200 Mary Ann, 1,010 Roger's No. 1, 4, 19 and 22, in all 80, covering about 20 acres of ground.

We think friend Eisenmeyer should

have been a little more guarded in his expressions about the Concord and Norton's. If the Concord is deficient with him by ten to fifteen degrees in saccharine, we are sorry for him. With us we have had the must range from seventy-five to eighty-four degrees by Oechsle's scale, if well ripened. Our friends from the Lake Shore advise us

that the Norton does splendidly with them, and deny the statement emphatically that it will not succeed well there. If he would try Martha, Maxatawney, Telegraph, and some of Rogers' Hybrids, we think that he would enlarge his list for cultivation in Illinois. We hope he will do so, and report.—ED.

ONE MORE REMARK ON THE RULANDER AND LOUISIANA.

I am happy to say that only on one point in the vast province of grape-raising and wine-making, I differ from our friend Husmann, namely: In the classification of our grape vines.

There are three opposite opinions touching the origin and character of the *Rulander* and *Louisiana*. Our friend Fr. Hecker is positive that the two named varieties are identical, and nothing else but the more or less acclimated or Americanized Clavner of his native country, the Grand Duchy of Baden.

Mr. Husmann grants the difference, nay, makes such a material difference that he designates the *Louisiana* as a hock-grape, the *Rulander* as a sherry-grape—asserting, however, that both are native American vines, “entirely different in foliage, wood, and fruit, from all the varieties belonging to the *vitis vinifera* class” (that is, from the vines of the old world), and to be reckoned among the “Southern division of the *Æstivalis* class” (summer grapes).

Now, this is more than my vintner's conscience can stand. Of the difference, and an essential difference, a long

experience has convinced me. Mr. Hecker's recollections I deem correct, so far as both varieties show a near affinity and close resemblance to several sub-species of the Burgundy family—for instance, the Clavner and others, extensively cultivated in France, Germany, Hungary, etc. Of this fact I was satisfied by a visit to Germany and Switzerland, in 1859. Other famous European varieties, sometimes here experimented with, as the Riesling, Traminer, and others, in outer appearance are just as much distinct from the Burgundy family as our Norton's Virginia is from the Catawba. Besides, I have not the least reason in the world to doubt the statement of Mr. Theard (not Thearel), of New Orleans, that the *Louisiana* was, some sixty years ago, by his father, directly imported from France.

I will not depreciate the *Rulander*, but, with me, its fruit is inferior to that of the *Louisiana*, and is not half so productive.

In my judgment, a true hock wine can only be gained from several vine species grown in the middle of

Europe, and if the Louisiana will give us a superior hock (that is, a fine of the character of the illustrious Rhinegau wines), we have it, according to the taste of the best connoisseurs, the most perfect grape for light wine that can be thought after—the *non plus ultra*.

I will close with the remark that the first number of the GRAPE CULTURIST was, so far as I had a chance to learn, received with universal favor, and that a highly beneficent influence of this new journal is generally expected. Many of our German vintagers being yet unable to understand the English text, I was solicited, in the German edition of the *American Agriculturist*, to communicate the main contents of the GRAPE CULTURIST. I have no objection to doing so.

FR. MUENCH.

Our friend differs with us in this point, but we deny that the Louisiana is the only native grape which will make a hock wine. In our opinion, the Delaware, Taylor, and Maxaway, make wines resembling hock, perhaps as close as the Louisiana. The Taylor, in our opinion, comes nearer to the Riesling, of Europe, than any other wine we have; and we will certainly not class it as a European variety. We do not in the least doubt the word of Mr. Theard, that we know of too many instances where men have been honestly mistaken. In one instance, the Rebecca,

clearly a Labrusca by its foliage, was disseminated as a seedling from a Malaga grape. Our friend will not deny, we hope, that both the Louisiana and Rulander are entirely different in foliage from all other European varieties.

Be that as it may, however, we agree upon one point, that they are valuable grapes. With us, here, the Rulander has been more productive than the Louisiana, and has made a wine which will favorably compare with the choicest sherry, and to which was awarded the first premium, as best light-colored wine, at Cincinnati, the committee unanimously ranging it at one hundred, their ideal of perfection. We have never had enough of the Louisiana to make wine from it, but hope to do so next year. We have, however, seen wine from it, which was indeed very fine, and, in our opinion, resembled choice hock very closely. We do not claim to be very familiar with the wines of the old world, but are not aware that the Clavner, or any of its sub-varieties, make a wine at all resembling sherry, as the Rulander evidently does. How will our friend account for this?

That the two are distinct, there can be no doubt, although so closely resembling each other in foliage that we are unable to tell them apart. But in the bunch, and much more in its juice and in the wine, there is a great difference, as much so as in the Cynthiana and the Norton, which some *would be* smart men also hint are the same.

EDITOR.

A WORD ON "TWO WEEKS EARLIER."

Some time ago I wrote an article for the German edition of the *American Agriculturist*, in which I drew the same conclusions at which our friend from Bushberg has arrived. My positions are these:

I. Though for table use early and very early grape varieties may be desirable—for wine-making those are decidedly the best which require, for their full development, the whole of the season, at any locality.

II. The latter part of the season—from the last week of September to the second or third week of October—is, in the latitude of St. Louis, the most favorable time for making wine. A higher degree of warmth than from fifty degrees to fifty-five degrees F. (eight degrees to twelve degrees) is apt to injure the must. The weather may

be too warm for the pressing and fermenting process. It may be too cold, indeed, late in October; but the latter evil can easily be remedied by the application of a stove.

III. By far the fullest harvest I always gain from the latest varieties, such as are not yet inviting for the birds, wasps and other vermin at the time when those pests, favored by our still hot September sun, are full of life and most voracious.

I know of no varieties that are too late for Missouri (except the Scuppernong, which cannot stand our winters), but I know dozens, valuable, perhaps, for more northern localities, or desirable for the table—which, however, I discard from my vineyard one after another, just because of their earliness.

FR. MUENCH.

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GRAPE CULTURE—WINE MAKING, ETC.

Without fear of contradiction we proclaim that Arkansas is better adapted to grape culture than any Northern State, not excepting Missouri, and her climate and soil are not surpassed by even California. We have seen as fine grapes grown in the State as we have at the East, which is evidence sufficient, to our own mind at least, that grapes can be profitably cultivated in almost any county in the State. And we have often wondered why, in a State as old as this one, farmers have not turned their attention to the cultivation of this fruit long ago, when by practical experience it has been fully demonstrated that the several varieties of grapes, Catawba, Concord, Clinton, and others, are prolific, luxuriant in growth,

and yield. We believe that parties in Sebastian county have been experimenting for some time, and when last we heard from there the experiment had proved a success, much to the gratification of those giving the subject their attention. True the experiment was on a small scale, yet, the result proved that greater results would follow a more extended experiment, or a vineyard twice as large would yield correspondingly. No doubt other parties in different sections of the State have cultivated a few vines; if so, the stronger our argument in favor of grape culture, as wherever the grape has been cultivated, the yield and quality have paid the cultivator twice over for labor and trouble experienced while prosecuting

the experiment. We have shown that grapes can be raised in the State, and, from the testimony of those making the experiment, can say that their cultivation is attended with less labor than in most other States. Now we will look at the profits of grape culture.

Many have supposed that it was necessary to send abroad for our wines—not only foreign wines, but American wines. This is not the case, provided we raise the grape from which to make the wine. Here is the profit. Every man having a piece of ground can make his own wine, saving what he pays out for "whisky straights," and have a much better, palatable and healthy drink. This is the best temperance lecture we know of. Drive out the whisky and substitute wine, if we must have stimulants, or let the farmer cultivate grapes as he would wheat, corn and cotton—provide his own drink as well as provisions. American grape culture is certainly worthy of all commendation, and where it can be so easily and profitably cultivated as in our own State, it should not be overlooked by the poorest man within our borders. And as we should have something to take the place of raw whisky, wine making will be found perhaps profitable by those who engage in it. We wish not to be understood as advocating the cultivation of grapes expressly for wine making, as their cultivation can be made profitable for other purposes aside from making wine. As a fruit, they are palatable and healthy. A magazine called the *Grape Culturist* has lately made its appearance, published in St. Louis, which will be found valuable by all engaging in the culture of the grape.

As this is a great subject for reflection, the culture of the grape, we trust our people will give it due attention, and that in a little while we shall be able to note farther experiments in the raising of this excellent fruit.

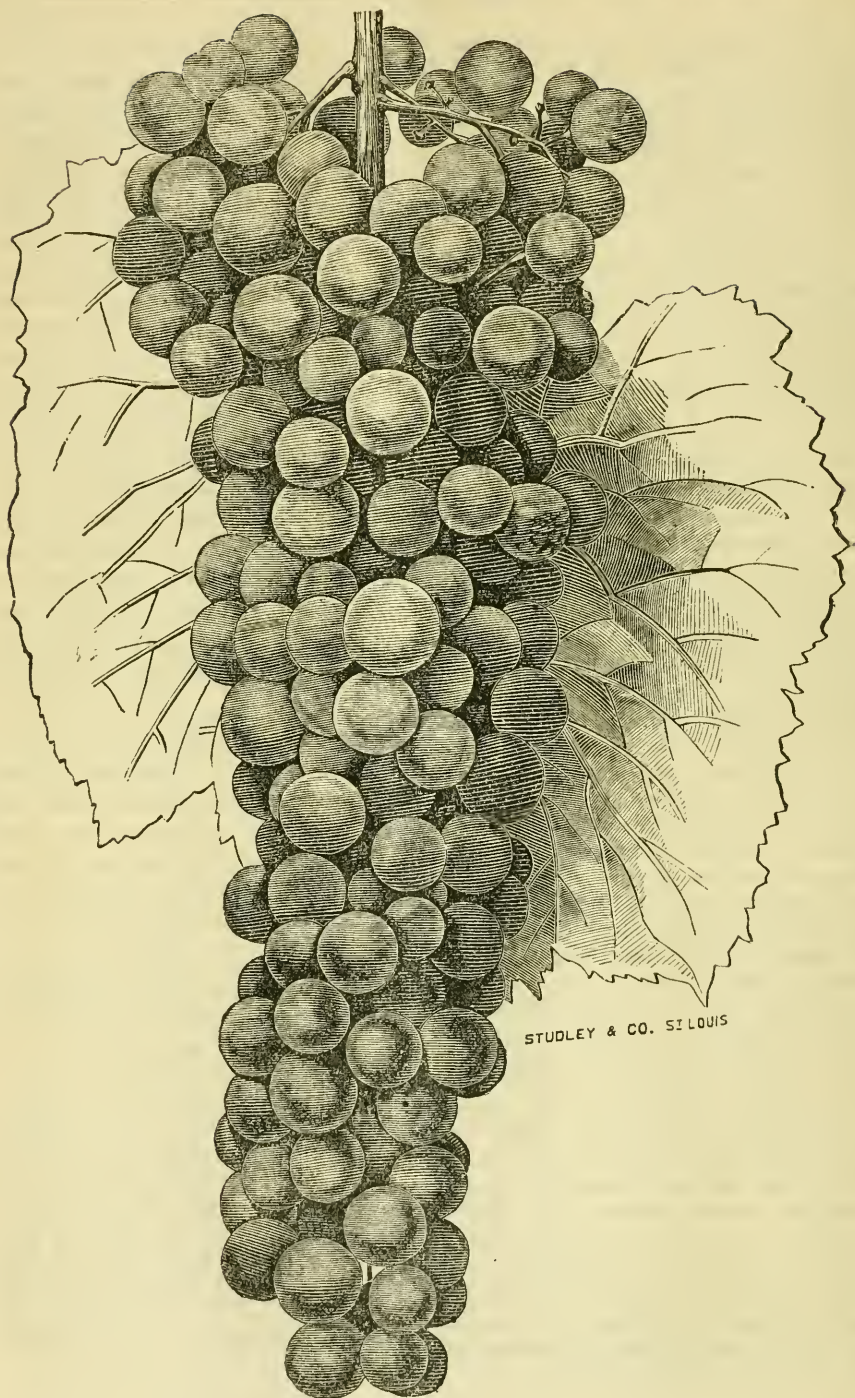
We clip the above from the *Little Rock Republican*, and are glad to see the interest manifested there in grape growing and wine making. We are also informed that several wine companies are being organized there, and trust that our sister State will soon rival Missouri in producing the choicest wines. From all we can learn, the climate and soil are specially adapted to the Aestivalis class, specially the Herbemont, Cunningham, Devereaux, etc. Their winters are milder, their summers longer, and, from what we can hear of their soil, that State should be the very paradise of this class of grapes, which, no doubt, comprise some of our choicest wine grapes. The wild grapes of their woods, we hear from several correspondents, are of very fine quality, and would, as they think, make an excellent wine.

We say, God speed the people of Arkansas in their endeavors to grow vines and fruits and make wine, and shall be happy to publish any facts they may send us in regard to this new branch of industry among them.—ED.

WIRE TRELLIS.—Having had inquiries about the cost of wire trellis for vineyards, we insert the following table, furnished by O. P. Saylor & Co.

Size of Wire.	Cost per lb.	Weight of 100 yards.	No. lbs. per mile.	No. yds. per ball, 63 lbs.	Length of 100 lbs. in yds.	Break with direct strain of lbs.	No. lbs. per acre.	Cost per acre—3 strands—rows 8 feet apart.
9	8½	18.86	323	342	699	1560	986	\$83 85
10	10	14.97	264	420	747	1230	807	80 70
11	10	11.95	211	529	939	1000	645	64 50
12	10½	9.24	163	700	1244	800	499	52 30
13	11½	7.05	124	893	1519	568	377	43 45
14	11½	5.51	97	1142	2031	456	296	33 00

No. 12 is the size most commonly used.



STUDLEY & CO. ST. LOUIS

THE HERMANN GRAPE.

THE HERMANN GRAPE.

This new grape is a seedling of Norton's Virginia, grown by Mr. F. Langendoerfer, near Hermann, Mo., in the spring of 1860: has fruited with the originator for five successive years, and is consequently well tried in that locality.

In visiting the vineyard of Mr. Langendoerfer, in the summer of 1862, we were struck with the beautiful appearance of three seedlings, in a row of twelve, and advised him to number them and pay particular attention to them. So much were we pleased with their appearance that we requested him to give us wood of those three, and grafted it on old stocks in the vineyard in 1863. In 1865 all three bloomed with us, but Nos. 1 and 3 proved barren, while No. 2 produced a very abundant crop. The original vine had fruited in 1863 with Mr. Langendoerfer, and grafts of it fruited abundantly in 1864. On trying the must on Oechsle's scale it showed 96°, and has since varied from 94° to 105°.

Bunch long and narrow, seldom shouldered, compact, often nine inches long; the shoulders, if there are any, having the appearance of a separate bunch; berry small, about same size as Norton's, round, black with blue bloom, moderately juicy, never rots or mildews, and ripens about the same time as the Norton's, or a few days later; but the juice is not dark red, but brownish yellow, making a wine also of the color of brown sherry or Madeira, of great body and very fine flavor, resembling Madeira.

Vine a strong grower and very productive, resembling the Norton in foliage, but the leaves are of a lighter color, the stems covered with peculiar silvery white hairlike threads, and the leaves somewhat more deeply lobed. It is, like

its parent, very difficult to propagate, and will rarely grow from cuttings in the open ground. We have watched this grape closely and with particular interest, and have become firmly convinced that it is an important addition to our list of *wine grapes*. If productiveness, general hardihood and health, and a superior wine can entitle a new variety to consideration, this variety certainly deserves it at the hands of our vintners. Its originator has been extremely reluctant to let it go out, as he did not wish to swell the list of our grapes (which is already almost too numerous), unless he could do so by a grape possessing certain advantages over any other known variety. This may be safely claimed for its wine, which is entirely different and distinct from anything else we have, and which we hope will be the *American Madeira*, which has been so anxiously sought by our *connoisseurs*.

Let not our readers suppose that it will be a *universal* grape, however. For our locality, and farther south, we think it will be eminently desirable, but much further north it will hardly attain the perfection requisite to make a really superior wine, as it ripens rather late. It will, we think, be found specially adapted to southern slopes and limestone soil, though it seems to have all, or even more, of the hardihood of its parent. It is a true *estivalis* in leaf and habit.

In the March number of the *GRAPE CULTURIST* occurred a misprint, which entirely changes the meaning of the sentence. In the fourth line, second column, on page 85, we are made to say: "The total amount of *these fungi* is very small," when it should read: "of these *salts*."

CORRESPONDENCE.

Editors Grape Culturist :

Moved by an impulsive nature, I embrace this first opportunity to respond to the cheerful greetings, and liberal cordiality, borne to the "Grape and Wine Growers of our *whole country*," upon the first page of your interesting new Journal.

Identified with, and almost wholly given up to the expansion of the noble and promising enterprise in which you are embarked, and to which you, as Editors as well as operators, propose in future to direct your energies, I beg leave to assure you of my most earnest desire for your complete and permanent success, and, responsive to your kind invitation, freely tender you—and, through your Journal, my brethren and companions in the "good work",—my humble services as a contributor thereto; and though I can hardly expect to present anything that shall come up to the standard of your expectations, I may, out of an experience of twenty-five years of earnest toil, much and as often as I have blundered, and however I may have been slow to observe the wants and natural tendencies of the vine, or to apprehend the distinctive elements of true culture, so as to be able to employ the best means and methods at command for maintaining the normal condition of the vine, and thereby developing the best attainable results,—in short, though I may have made but little progress, still I may be able to present some facts, and offer some suggestions, worthy of the attention of

our many beginners, who, however hopeful or confident of final success, realize that they are groping their way in the dark, and whom we see are likely to repeat some of the many blunders which scores of us *older* apprentices will be most likely hereafter to avoid.

Of one thing at least I am quite well assured, and though it may subject me to quite palpable insinuations of egotism, I am inclined to offer it here as a *slight qualification* for one seeking employment *as a teacher*, in the primary department of Grape Culture. I refer to the many foolish and mortifying mistakes, from time to time recognized, through that teacher who—though a really thorough educator, has always been known to exact the highest tuition.

These repeated reproofs, and this "*dear bought*" experience, I shall try to turn to good account; shall use as so much *modifying* capital, to "tone down" my too positive assurance, when combating the supposed errors of those who, by reason of their better intelligence, and well settled contrary convictions, shall feel inclined to disregard my instructions.

And yet, my dear Editors, I scarcely expect to be able, at all times, and upon all points, to agree with even all our better informed "Grape and Wine Growers," or that my views and observations will always seem parallel with your experience.

But, if *you* gentlemen, shall be able to conduct the GRAPE CULTURIST squarely upon the basis you have laid down upon your said "first page;" if you shall in the "long run," show that

you have the courage and liberality to come fairly up to this high standard; to stand well balanced and self assured upon the platform you have there laid down, then, gentlemen, matters will run smoothly, so far as you and your correspondents and contributors are concerned, however *some of our Grape Growers and Wine makers* in the different and far distant sections of our country may differ.

And thus, having "deserved," you can confidently count upon eminent and continued success. That this, your new enterprise, so auspiciously undertaken in anticipation of the wants and demands of the thousands, who, firmly believing that we possess the elements, have resolved to make this delightful and "Heaven blessed" culture a success, may *prove* a success, even far beyond your present expectations, is the earnest wish of your humble correspondent, who, for lack of proper instruction, though long an ardent and ever sanguine worker in the vineyard, has accomplished less than might otherwise have been performed within a comparatively brief period.

With great joy I hail, and, at the highest pitch of my feeble voice, am prepared to echo the "glad tidings" by you, at the dawn of this A. D. 1869 proclaimed, that henceforth the earnest, hopeful, happy cultivators of the vine are to have a faithful representative, a journal *all their own*, to advocate and sustain their united interests, to make known their desires and intentions, and to hasten the end of their earnest and united labors, *viz*: to make America pre-eminently a Grape and Wine growing country.

And now, brethren of this exalted fraternity, one and all, let us renew our zeal, and with redoubled vigor and increased earnestness, "push on" to the accomplishment of this grand achievement.

United and reassured, let us go on in our "labor of love," trusting in Him who dispenseth "the dews of Heaven" and the "fatness of the earth," and—to the well deserving, "plenty of corn and wine."

I hope by the end of this—its first year, the GRAPE CULTURIST may have not less than twenty thousand names upon its "list;" and that, expanded in volume, and still more enlarged in usefulness, it may go on to the successful accomplishment of its high mission.

WM. GRIFFITH.

North East, Pa., Feb. 25, 1869.

P. S. I most heartily concur in the suggestions of your correspondent John J. Werth, in his remarks regarding the propriety of all correspondents affixing their proper signature to communications addressed to their brother cultivators through the columns of your Journal.

To the minds of grape growers, even of limited experience, the gravest reasons are readily suggested for this rational, good old practice of the "Fathers," whose simple habits, as it seems to me, were better calculated to keep duplicity and morbid selfishness in abeyance, than our *studied* habits of marked dissemblance.

Our American culture is, as yet, in its infancy, and hence our work is *so largely experimental*, that it is of the *utmost importance* that all should possess the means of knowing what *each* has accomplished, and to what extent

any given method of cultivation, or variety of grapes, has *proved* successful or desirable; where practiced, and by whom grown.

For the fact is—and all of us have observed it, however pure and high minded may be the great majority of our grape growers, our field of labor may be made—*has been* made to produce “thorns and thistles” from seed scattered by the concealed hand of some of the servants of the “enemy of all righteousness.” Again, “theory,” though always more or less instructive, has often—when called to the aid of the practitioner, proved but a blind guide.

Hence, it is of the greatest importance that the novice in grape growing, may be able to distinguish between what has been accomplished, and what the *mere theorist* may proclaim as practical or important, when, by actual trial, his theoretically marked out method may be found to be as fatally faulty as the many ingeniously contrived perpetual, *self-propelling* machines, which, though beautiful models of mechanical genius, fail *entirely* to meet the end in view.

When I read an apparently interesting communication from a brother grape grower, disclosing the true method of planting, training, pinching, pruning, &c., &c.—points upon which we *so often and so resolutely* differ, and then, to heighten my anxiety, announces as the natural result the *most complete* success—why, I want to go at once, and have both oral and

ocular demonstration of what has been accomplished, that I may go on confidently and “do likewise.”

I say, “I want to go,” but understand me, I don’t always hurry off; not quite so often as I used to, for, to tell the truth, my ardor in this regard has been materially damaged by past experience; for I have so often failed to discover the object of my anxiety, failed to find the sought writer or his whereabouts, or, finding him, have been made sadly conscious that my visit was neither expected nor desired; in short, made painfully to realize that the “play was out,” or that it never had been performed, and, as a matter of course, never would be.

Well timed and quite in order, in my judgment, is the suggestion of your Richmond correspondent, whom, did he not remind us of his forty years of experience, we should unmistakably recognize as a real and practical grape grower. Give us “the sanction of a name.”

By the way, Messrs., can you tell me where I can find “*Labrusca*,” or give me his real name, or the whereabouts of his habitation?

He is evidently a very intelligent grape grower, but—excuse me, I really am a little anxious to know whether he *ever grows any grapes*.

GRIFFITH.

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We cannot tell you who “*Labrusca*” is.—ED.

THE BRAN QUESTION—BRAN BREAD AND HUMBUGS.

"Your Kankakee Co., Illinois, correspondent desires me to give your readers 'light;' and, as he closes with—'Yours, for truth and progress,' I am led to *believe* that he is sincere in his request for information, were it not for *his* very untimely advice to read the article of Mrs. Daviess—which I had read and admired some hours before he could have done so.

Yet, we propose to treat him with courtesy and respect in our answers, and to ask of you the indulgence of a large space, to fully explain the "situation," trusting your readers may be benefited by the trial-tests Ozark has received:

"Would he not have Rogers continue his experiments?"

Answer.—No sir; not an hour. The bastard hybrids sent to the world in so many numbers, are mostly a worthless class. Fruit growers have been deceived—they had been growing No. 22, bought at 50 cents to \$1 apiece. Salem flamed upon the public in beautiful size and form (*on paper*); all *safe* mea bought at \$3 to \$5 each. Several gentlemen among these hills have fruited it, and lo! what a supernatural change! The climate is all at fault—it was simply No. 22.

"Can he spare the Concord grape or its originator?"

Answer.—No, sir, we cannot. The Concord is *our* grape—it is a success. It did not start with a flourish of historic excellencies that would shame a Tokay or White Nice. It became the *people's* grape because it had health, virtue, and manhood.

It is the new *regime*, the Triunes, and the grapes reared under "educated tastes," that we wish our Western friends to touch lightly. It is of men who have "educated" their "tastes" down to so fine a point to discover such rare qualities in their grapes, who must masticate bran-bread, with no pork or beef, and wear a cabbage-leaf night-cap—or their perfection could not be reached.

We are with your correspondent from Illinois, in the advice to go slow with all new fruits. We say of Walter, Eumelan, Eureka, Weehawken, Aughwick, Union, Kansas, Tekama, Lacon, Mount Lebanon, Nonantum, Dana, Martha, Miles, Rentz, Sherman, Black Hawk, Christine, Lyman, Diana Hamburgh, and many others we are testing—but *only* testing—buy very sparingly of these until they are *known to be worthy*—go slow.

That our correspondent may see that Ozark has good cause for cursing the majority of the new and "educated" grapes, we tell him we have thoroughly and understandingly tested all the varieties named below, within the past twelve years; that every one of them came to me with the recommend of some of your great grape growers in the East: Anna, Allen's Hybrid, August Pioneer, Albino, Aiken, Adirondac, Bland, Burgundy, Black July, Blood's White and Black, Brinckle, Canby's August, Catharine, Cassidy, Clara, Cuyahoga, Elizabeth, Empire, Emily, Franklin, Framingham, Garber's Seedling, Golden Clinton, Henshaw, Hyde's

Eliza, Huntingdon, Iona, Louisa, Le-noir, Lincoln, Lydia, Manhattan, Mary Ann, Mammoth Catawba, Montgomery, Mottled, Naumkeag, North America, Ontario, Raisin, Rogers' Hybrids, Rogers' New Rebecca, St. Genevieve, Swatara, Urbana, Union Village, To Kalon, Underhill's Seedling, Wilmington, Winslow, Warren, White Sweetwater, and a few others.

Several of the above are the most miserable fox grapes to be found anywhere; a portion of *fair* quality, but so very tender that without great care the plant would be killed outright; a part of good quality, but tender, and with *disease* as inherited from the common parents.

With this *experience*, in which it is said "fools" acquire knowledge, I feel that time, money, and patience have been lost with these Eastern excellencies, and I may well and truly exclaim, "God save us from your seedling grapes!"

OZARK.

In copying the above from *Colman's Rural World*, we could not help thinking of the old adage of "pouring the child out with the bath." Ozark was evidently in a bad humor, may have experimented with a great many worthless varieties, and, as we cannot help but think, in a very unfavorable location. Of the latter, however, we can only judge from his ill humor, as he is pleased to leave us in the dark about his "habitation and *real* name." But we will look at some of his points somewhat closer.

He would not have Mr. Rogers continue his experiments, and denounces most of his Hybrids as a worthless class. Here he "pours out

the child with the bath." Some of Mr. Rogers' Hybrids may be worthless, and no one could expect that forty-five seedlings would *all* be valuable grapes, but a number of them, among which are Nos. 1, 3, 4, 8, 9, 19 and 22, or Salem, we believe to be among the best grapes we have, and we have tried as many, and more, as "Ozark." And, what is more, we are not alone in that belief, but hundreds of our most intelligent vintners coincide with us. Mr. Rogers, we claim, has done more for American Grape Growing, by raising these Hybrids, than many hundreds who make greater pretensions; certainly more than Ozark, if we are to judge from the tone of his remarks. Would that these valuable grapes had been named instead of numbered. There would not be then so much confusion about them.

"The Concord is *his* grape, it is a success." So it is, and no one can be a warmer friend of the Concord than we are. It is the (if we may be allowed to express ourselves thus) meat and bread of the masses—the poor man's grape, which every body can grow, and which makes the poor man's wine, a delightful every day drink. This we have said and claimed for it years ago. Still, it is not a *perfect* grape, and we can never hope to rival with its wine the choice vintages of the Rhine and of France. Therefore, we want better grapes; in grape growing, as in every thing else, our motto should be "Excelsior." Let him not forget that even the Concord was a *new* grape *once*, and that it would never have been disseminated so widely if every one had been afraid to try it.

Among those he calls *new*, and advises to touch lightly, we find Eureka, Martha, Christine, Black Hawk, etc. We thought the Eureka was an *old* grape—so old that it was dead and buried long ago. We confess we have heard nothing of it since that memorable show at New York, some eight years ago, where it was recognized, not as that “heaven-born grape, from the planet Juno,” of its originator, but simply as the Diana. If Ozark lives where he can be reached by it yet as a *new* grape, we really pity him.

The Martha has been pretty well tested all over the country, and can hardly be called a very *new* grape. We can only say that we have fruited it five years, have found it very productive, always healthy, of good quality, have made excellent wine of it twice, and consider it in every respect an improvement on the Concord. All who have tried it—and they can be counted by hundreds—seem to concur in this. The Christine—if identical with the Telegraph, as we believe—

can also be confidently recommended. Black Hawk we have not so fully tried, but from what we have seen of it, it also deserves to be planted.

All in all, we can not help but think that “Ozark” lives in a poor grape region; that he is unwilling, or unable, to take the slightest additional trouble with a superior variety, and that he was hardly cut out for a grape grower. He has been exasperated because all the vines under his care have not been content with the same rough treatment as the Concord, and therefore would have people only plant that as the “universal grape.”

We prefer to steer a middle course. We mean to try every thing new, which comes well recommended by reliable men. We would urge our readers on to progress, but not advise them to rush blindfold and largely into every thing new which is presented to them, and, above all, send in the *results* of their experience, describing soil and location, to the readers of the *GRAPE CULTURIST*.
EDITOR.

SUMMER PRUNING THE VINE.—No. 1.

Of all the operations in grape culture, this is one of the most important, and yet it is most imperfectly performed and understood by the majority of our vintners. Many think that if they have only performed fall pruning properly, it is of very little moment how summer pruning is performed. Yet, the two operations are intimately connected, in fact, one is but a continuation of the other. Without proper and judicious summer pruning, it is impossible to prune judi-

ciously in the fall. If you have allowed six to eight canes to grow in summer, where you need but two or three, none of them will be fit to bear a full crop; none be properly developed. By pruning somewhat longer in fall; early summer pruning, rubbing out all imperfect and weak shoots, will enable you to have only well developed, strong shoots and bunches, and take away all the weak, imperfect ones. We therefore prune longer in fall than the majority of our vintners,

which gives a double advantage; should the frost of winter have injured or killed any of the first buds, we still have enough left; and should this not be the case, we still have our choice to rule off all imperfect shoots; to reduce the number of bunches at the first pinching, and thus retain only strong canes for next year's fruiting, and have only large, well developed bunches.

But to secure these advantages we have certain rules, which we follow strictly, and which we will try and make as plain to our readers, in a series of articles, as we possibly can. We are glad to see that the attention of the grape growers of the country is thoroughly aroused to the importance of this subject, and that the old practice of cutting and slashing the young growth in July and August is generally discountenanced. It has murdered more promising vineyards than any other practice. But people are apt to run into extremes, and many are now advocating the "let alone" doctrine. We think both are wrong, and that the true course to steer is in the middle. We shall be happy to ventilate this subject thoroughly, and communications on this subject from our grape growers are earnestly solicited. We do not claim to be infallible, nor an authority, but will try and give our rules, and the reasons for them, hoping that others will do the same.

1. Perform the operation *early*. Do it as soon as the young shoots are six inches long. At this time you can overlook your vine much easier. Every young shoot is soft and pliable. You do not rob the vine of a quantity

of foliage it cannot spare (as the leaves are the lungs of the plant and the elevators of the sap). You can do three times the work than you can perform a week later, when the shoots have become hardened, and intertwined by their tendrils; and you can, at the same time, destroy the small white or blue caterpillars, which are busy at this time making their webs in the tops of the shoots, and destroying the embryo bunches and leaves. Remember that the *knife* should have nothing to do with summer pruning. Your thumb and finger should perform all the work, and they can do it easily, if it is done early enough.

2. Perform it *thoroughly* and *systematically*. Commence by picking out the shoots you intend to leave for bearing wood for next year. These are left unchecked; but do not leave more than you really need. If you do, you squander the strength of the vine. Remember that each part of the vine should be thoroughly ventilated, and if you crowd it too much, none of the canes will ripen their wood as thoroughly, nor be as vigorous, than when each has room, air and light.

When you have selected these, commence at the bottom of the vine, rubbing off all superfluous shoots, and all which appear weak or imperfect. Then go over each arm or part of the vine, pinching every fruit-bearing branch above the last bunch of grapes, or, if this should look weak or imperfect, remove it, and pinch back to the first perfectly developed bunch. Should the bud have pushed out two or three shoots, which is very frequent

with some varieties, it will generally be advisable to leave only the strongest, and remove the balance. Do not think that you can do part of it a little later, but be unsparing in taking away *all* you intend to take this time. You will not find it so easy the second time, and by leaving anything you intend to take off some other time, you are squandering the strength of your vine. Destroy all the caterpillars,

and all the insects you find feeding on the vines, the steel blue beetle, who will eat into the buds; but protect the lady-bug, mantis, and all the friends of the vine.

In our next issue we intend to describe the second and third operations of summer pruning, and hope, by that time, to have received communications from our friends upon this important subject.

CLEVELAND, Feb. 27, '69.

I have received the first two numbers of your GRAPE CULTURIST, and am much pleased with it. In looking over your January number I find that Mr. Werth, in speaking of the descendants of the *Vitis Labrusca*, leads us to think that they will prosper best in wet undrained soils. I must disagree with him, that is in our climate, which is on the south shore of Lake Erie, and soil, stiff clay, underlaid with shale at the depth of three to four feet; we find that there is nothing so injurious to the vine as wet feet. We have vineyards that were well underdrained, but not that attention paid to surface drainage as there ought to be, that were nearly ruined in one season; and I would say to every Vineyardist who wishes to succeed, first of all see that your land is well underdrained if the soil requires it; and the next thing, which is of much more importance, keep off your surface water, and on level lands where the water runs off slowly, and the soil is of clay, ridge up your rows before

planting; continue to keep the centre of your rows the lowest forever after, and you will find that your vines will be healthier, your wood will ripen, and the fruit be much richer in saccharine matter. JOHN SPALDING.

We cordially agree with friend Spalding, and think that underdraining and surface draining are essential to the health of our vineyards. It will not do to say, because the *Labrusca* in its wild state grows in swamps, we should also have our vineyards of that class in low, swampy lands. But we think that the *Labrusca* family generally needs a deeper, uniformly moist soil, than the *Aestivalis*, who prefer a warmer and dryer soil. But if anything is calculated to keep the soil uniformly *moist, not wet*, it is underdraining and deep tillage. This, we think our Richmond correspondent meant to imply, and therefore we advise: Plant the *Labrusca*, as a *general* rule, on your eastern and northeastern slopes, with their deep, rich soil, and the *Aestivalis* on southern and southwestern slopes.—ED.

THE INFLUENCE OF PREPARING THE SOIL ON DIFFERENT VARIETIES.

The old adage, that "good is good, and better is better," is not always applicable. For instance: A neighbor of mine, in planting a vineyard, had his ground trenched from twenty-four to thirty inches deep; his Norton's Virginia grow excellently and bear finely, but his Concord and Herbemont have never done well—at least, not as well as mine, where the ground was only plowed eighteen inches deep, soil and location being the same in either case. This year his Herbemont vines are not only killed, but the wood is diseased, and he thinks he will have to cut them off at the ground, while my Herbemont vines are perfectly healthy. Now, who can and will explain the phenomena? I have read a great many books and essays on the preparation of the soil for grapes, and have never heard or read of anybody making a distinction or exception in the different varieties planted.

If we take into consideration that there are fourteen hundred different distinct varieties of grapes grown on the globe, and such a vast number of different and distinct brands of wines made, it is evident, at least, that there must be a difference in the preparation of the soil. Manuring, and the different kinds of manure to be used for each peculiar grape, and for the perfection of its aroma and bouquet, as well as the healthfulness and productiveness of the vines, are questions of prime importance. We are too much inclined to nationalize everything here; and

what is right and proper must not only be supported, but extended. Our system of weights and measures must be made more uniform, in all of the States alike; nay, more, the French decimal system should be adopted as soon as possible.

But this branch of American industry—viz: "Grape Culture"—will require, perhaps, as much special and different treatment as there are localities. It is strange, but true, that along the banks of the Rhine, on either side thereof, there are different methods and treatments of the grape every mile or two. While Mr. Wilder, when visiting the vineyards of Germany, was shown the cow stables belonging to the celebrated Johannisberg vineyards, with the remark that "there is where Johannisberger is made," Messrs. Jourdan and Buhl on this side of the Rhine, at Deidesheim, would have pointed to those hard, basaltic stones found in that volcanic region, which they use in their celebrated vineyards, for the production of a superior aroma and bouquet.

These experiments we will all have to make here; hence, we must encourage the shedding abroad of "more light on grape culture." As yet, I know but one vineyard where white grapes are not only successfully, but very successfully raised. While Norton's Virginia and Concord may perhaps be cultivated on general principles, other varieties may prove more valuable under different treatment, formation and preparation of soil, etc.

I am glad that the GRAPE CULTURIST is taking a step in the right direction. May it shed light and bring information on all the vital subjects of grape culture and wine-making. Yours, truly,

G. C. EISENMEYER.

NOTES ON GRAPES FOR 1868.

[By some strange freak of the mail, this article, written in January for us, came to hand only a few days ago, when we had already commenced copying one from the *Journal of Horticulture*, from the same pen. As this is more complete, we give it nearly entire.—Ed.]

The following description of varieties, their habits, and comparative merits, are from experience in Central Ohio, a region not specially adapted to grape culture, on account of a very variable climate, and liability to frosts late in spring and early in the fall. Late-ripening varieties rarely mature here, and if much later than Concord and Delaware, are not considered reliable.

ALLEN'S WHITE HYBRID.—Claimed to be a hybrid cross between Golden Chasselas and Isabella. The vine has many foreign characteristics, but is nearly as hardy in winter as Isabella. Subject to mildew in unfavorable seasons, but not more so than some native varieties. Bunches rather large; compact; berries medium to large; skin thin, semi-transparent; color nearly white; amber, next the sun; flesh tender; flavor rich and delicate, nearly equaling the foreign Chasselas. Ripens a few days later than Concord.

ANNA.—Another white grape. Vine very hardy; of compact, rather dwarfish, growth; usually healthy. Bunches and berries medium; color white, or light amber, with small, dark specks, and thin, white bloom. Always somewhat pulpy and acid at the centre, but surrounded with a very rich, high-flavored juice, next the skin. If not

pressed too closely, makes a fine, high-flavored white wine. Late in ripening. Farther south would probably lose much of its hard pulp, and ripen more perfectly.

ADIRONDAC.—Black; very early. Starts into growth and blooms so early in spring that the blossoms are apt to be destroyed when late frosts prevail. Bunches large, compact; berries large, round, or slightly oval. Skin thin, covered with a delicate, purple bloom; flesh tender and melting; flavor agreeable, sweet; a little vinous; not very rich, but a pleasant table grape. At the north, the vine requires protection in winter, and sometimes mildews in unfavorable locations.

ALVEY.—Vine vigorous and healthy, making a moderate growth of stout, short-jointed wood. Bunches medium to large; berries medium, very black; juicy, pulpy, vinous and sprightly. Rather acid till fully ripe, when it becomes much like Herbemont in flavor.

CREVELING.—One of the finest, if not the best, of our black, native grapes. Vine hardy, and in suitable soils, vigorous and healthy. Bunches medium to large, usually loose; often straggling; berries large, slightly oval. Quality best for table; makes also a fine, red wine. Seems to require a rich soil and good cultivation. Ripens early—a few days before Concord.

CHRISTINE, OR TELEGRAPH.—A black grape, of the Concord and Hartford type. Vine healthy, hardy and vigorous. Bunch compact, of medium size; berries medium; quality good. Ripens very early, usually a few days before Hartford.

DELAWARE.—This variety retains its high position, and is usually adopted as a standard of comparison for other American grapes. Unfortunately, it does not, from various causes, succeed well in all localities, seeming to require more care in cultivation, and richer soil than Concord and some other kinds. It is, however, exceedingly hardy, enduring the severest winters uninjured, when the vines are healthy. In some localities it has been found subject to mildew, and this tendency is greatly aggravated by permitting the vines to over-bear, which the Delaware is sure to do, if permitted. Bunch and berry medium; skin thin; color red, or light Catawba; pulp tender; flavor vinous, sugary and sprightly. Quality very best for both table and wine.

DIANA.—Does best on warm, rather dry, and not too rich, soils. Gravelly clay, or sandy loam, seems best suited to its wants. A vigorous vine, productive and profitable in favorable locations. A seedling of the Catawba, neither quite as large in bunch and berry as that variety, nor quite as productive, but has usually suffered much less from rot. Good both for table and wine.

IONA.—Vine tolerably vigorous in growth, usually healthy, but tender, requiring careful protection in severe winters. Bunch large, loose, shouldered; berries medium to large. Color red; flesh tender and uniform; flavor rich, sprightly and vinous. Not subject to rot in this locality, but ripens very slowly and unevenly, and rarely matures perfectly. A very fine grape when it can be perfected, but apparently suited only to special localities.

ISRAELLA.—Supposed to be a seedling from the Isabella, but is neither as vigorous in growth, nor as healthy as its parent. If it has any merit above the Isabella, it is only in being a little earlier.

IVES SEEDLING.—This variety, which originated in the vicinity of Cincinnati, Ohio, has obtained considerable popularity in that region, principally as a red wine grape. The vine seems very hardy, healthy and vigorous; in general habit and appearance resembling the Hartford Prolific, and like this variety and the Concord, seems to be well adapted to nearly all soils and locations. As a table grape, it cannot be called above second or third rate; to my taste, not equal to Concord. As a wine grape it is not equal to Nortons Virginia, or Creveling, and, I think, requires a little assistance in the way of *gallizing* to make a palatable, or really popular wine. The bunches are full medium to large, compact, often shouldered; berries slightly oval, medium, very black, juicy, sweet, vinous and pleasant, though not high flavored, and always rather pulpy. Colors early, but requires to hang upon the vine pretty late to become fully ripe.

LYDIA.—A large, white or light green grape, originated upon Kelley's Island, Lake Erie. Supposed to be an Isabella seedling. In habit of growth the vine is not unlike the Isabella, but is much less productive. The bunches are large, oval, with salmon tint when exposed to the sun; pulp tender, flavor sweet, rich, slightly vinous. A grape of good quality, but mildews some in unfavorable seasons. Ripens early—a few days later than Delaware.

(To be continued.)

GRAPE INSECTS.

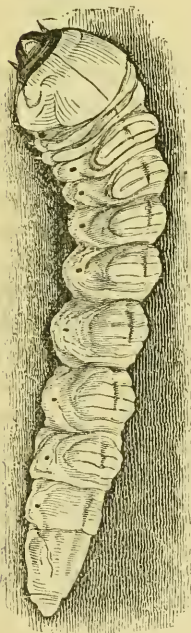
We are glad to announce that our State Entomologist, Mr. C. V. Riley, of this city, has consented to keep us posted from time to time on the insects which are injurious to the grape vine, and we can also promise our subscribers that any question under this head, if accompanied with specimens, will receive due attention.

With his permission, we copy the following account of the new root borer, from his most excellent report.

THE NEW GRAPE-ROOT BORER.

(*Orthosoma cylindricum*, (?) Fabr.)

[Fig. 67.]



(Coleoptera, Prionidae.) ed at the head of this article—Fig. 67. At about the same time, Mr. Walsh, of Rock Island, received an immense specimen from W. D. F. Lummis, of Makanda, Ill., with the same account of its habits;

The *ad interim* committees of the Illinois and Missouri State Horticultural Societies, while visiting the orchards and vineyards along the line of the Iron Mountain Railroad, discovered that sundry grape vines on Dr. C. W. Spaulding's place were dying; and on digging up such vines, the roots were found to be entirely hollowed out, and in many instances severed, by a worm which is faithfully represent-

and the following letters, which I have since received, relate to the same worm:

MR. RILEY—*Dear Sir*: Herewith please find a worm or grub, which has bothered my grape vines. It cuts the vine off about three or four inches under ground and takes out about an inch. Set vines last spring. Put stakes of oak, green.

Respectfully, &c.,

ALFRED BARTER.

Virgil City, Mo., Aug. 21, 1868.

PROF. RILEY, *State Entomologist*: I leave here for you a specimen of a worm which has proved very destructive in my vineyard this season, having killed twenty-four vines, usually commencing at the bottom eye and eating the entire stem almost to the surface of the ground. I have dug up all the vines, and in each case have found but one worm, sometimes as deep as eighteen inches below the surface. My vineyard was planted this spring on ground previously cultivated; has been thoroughly subsoiled and is well drained; the vines are Hartford Prolifics and Concord. Please send any information of value you may have relating to the above to Col. John H. Hogan, Pevely Station, I. M. R. R.

Very respectfully,

JOHN H. HOGAN.

September 3, 1868.

MR. RILEY—*Dear Sir*: The grape vine borer has been quite destructive in our vineyard this season, having

killed fifteen vines. Except in two cases, we found and dispatched him without mercy. We first noticed the effects of the borer about the latter part of July, and frequently found them until the latter part of August. In others the root was eaten off from five to eight inches below the surface. Only Concord vines have been affected, and only those that we obtained from a neighboring vineyard for planting last spring. Not one of our original vines have been destroyed, though we have four acres equally exposed to the attacks of this new destroyer. Any information that you may be able to give us upon this subject will be thankfully received.

Very respectfully,

SIMMONS & TILLSON.

Sulphur Springs, Sept. 10, 1868.

Mr. D. C. Peebles, D. D. S., of St. Louis, also brought me a large Concord vine that had been entirely severed from the roots and killed by this worm, and I also received specimens about one-fourth grown from T. W. Guy, of Glenwood.

The above letters convey a very good idea of the manner in which this borer works. It seems to have occurred in the Concord vines more generally than in those of any other variety, but I think that this may be attributed to the fact that more Concord vines are planted than any other kind, for, as the following facts will show, the borer is evidently a very general feeder. In the early part of June, 1867, Mr. O. B. Galusha, who was then with the *ad interim* committee visiting Southern Illinois, sent me a

worm in all respects similar, which was found boring into the root of an apple tree. I have also received Osage orange roots from Kansas, which were being bored by the same fellow, and he is evidently partial to rotten oak stumps, for, not only have several persons, who are well able to judge, assured me that they have found him in such stumps, but Mr. A. Bolter, of Chicago, also found it in such stumps in Kentucky, and sent me the specimens for identification. At the meeting of our State Society, at Columbia, Mr. I. N. Stuart even avowed that he had found it partly grown, not only in seedling apples but in the roots of corn stalks, while Chas. Connon, of Webster, assures me that he has found it in the heart of felled hickory, and I ascertained that he was perfectly capable of distinguishing it from the common borer (*Cerasphorus cinctus*, Drury), which infests hickory when felled, and which causes what is known as "powder post," he being quite familiar with this last named insect. There are several large beetles in the West which must have larvæ very similar in appearance to this, and it is not at all unlikely that different insects have here been confounded, but the figure at the head of this article, with the following description of this grape-root borer, will enable any one to recognize it in the future.

* * * *

Now, to what insect does this borer belong? It is manifestly the larva of some long-horned beetle of the family PRIONIDÆ, but of what particular species cannot be positively stated till the beetle is reared from grape-root-

boring larvæ. Before another year shall have passed away, I hope to definitely determine this point, but meanwhile, I have every confidence that it will produce the Cylindrical *Orthosoma* (*Orthosoma cylindricum*, Fabr.), a large, flattened, long-horned, light, bay-colored beetle, which is common throughout the

[Fig. 69.]



country, and especially in the Mississippi valley, and which is represented of the natural size at Figure 69. True, according to Westwood, the larvæ of the PRIONIDÆ have the second segment enlarged and broadened,

while the closely allied family CERAMBYCIDÆ, has the first segment thus enlarged as in our insect; but from a larva resembling ours in every respect, so far as his description goes, and which he found in September, 1867, in decaying pine wood, Mr. Walsh actually bred, about the last of June, 1868, the Cylindrical *Orthosoma*. The only accounts on record which pretend to give the natural history of this beetle, are by Dr. Fitch and S. S. Rathvon, that of the former in his 4th Report, § 239, and that of the latter in the *Agricultural Reporter*, 1861, pp. 611-612. Dr. Fitch describes the larva, which he supposed belonged to this beetle, but which he did not breed, as occurring in pine trees, and as having the first ring longest and the second

broadest; while Mr. Rathvon figures it with the first ring infinitely shorter than the second, but confesses that the drawing was made from memory, and he doubtless trusted to the authority of Westwood. Furthermore, Monsieur E. Perris has figured at Plate 6, Figure 362, of the "*Annales de la Société Entomologique de France*," for 1856, the larva of *Prionus obscurus*, Oliv., which bores into the pine, and which very closely resembles our larva, the first and not the second segment being enlarged.

Until the past summer nothing had been published about the attacks of this insect on grape roots, and yet, upon inquiry, I find that it has been known for several years. Mr. Spaulding informs me that the first that was seen of it in his neighborhood was in 1866, when his man found an enormous one in a wild vine which he was about to graft; but Mr. Geo. Husmann, of Hermann, has been acquainted with it since 1850, and has known it to occur around Hermann since 1854. Indeed, Mr. Husmann informs me that he has never observed the old grape vine borer, which had sixteen legs, and which produces a moth (*Ageria polistiformis*, Harris), but that in speaking of the grape root borer he has always referred to this species. Mr. J. H. Tice found it in apple roots in 1860 on the place of James Sappington, of St. Louis, while the following item, by A. J. H., of Vineland, N. J., which appeared in the January (1869) number of the *Gardener's Monthly*, would indicate that it has the same habit all over the country:

"On page 354, October number of

Agriculturist, reference is made to a "vine borer" in Missouri that cuts off vines below the surface. It is also mentioned, and partially described, in the last *Gardener's Monthly*. This "borer" is an old friend (?) of mine. It is found principally in old rotten oak stumps. I hardly ever dig one out without finding several of these worms. They are about two inches long, tapering from head to tail, white bodies and black heads. I lose, on an average, about fifty vines and dwarf pears annually by these little villains; probably twice as many pears as vines. I have had several apple trees cut off by them, and one standard pear. The tree roots seem often to be eaten entirely up, but the vine roots are only cut through as if they had obstructed the line of travel.

This is no new insect, but will, I think, probably be found troublesome

whenever dwarf pears and vines are planted among decayed oak stumps."

Remedies.—Little can be done in the way of extirpating these underground borers, when, as in the present instance, their presence is only indicated by the approaching death of the vine. Still, every vineyardist should make it a rule to search for them wherever they find vines suddenly dying from any cause unknown to them, and upon finding such a borer, should at once put an end to his existence. The beetle, which may frequently be found during the summer months, should also be ruthlessly sacrificed wherever met with. I should also advise not to plant a vineyard on land covered with old oak stumps, and not to use oak posts where those made of cedar can be had as conveniently.

EDITORS' LETTER BOX.

R. F., in St. L.—You wish to know how best to purify musty vaults, on the walls and floor of which mould has been formed.

For this purpose, place an earthen or stone vessel in the middle of the vault, put from two to four pounds of common salt into it, close all windows and other openings, bung up carefully all casks, and pour into the vessel one-half pint of concentrated sulphuric acid to each pound of salt. Leave the vault as

quick as possible and close the door well. Let the vault remain closed at least three hours, but do not enter it as you would be suffocated. After the expiration of this time, first open the ventilators, so that the remaining gas may escape, and then sweep the mould, which by this time has been destroyed, from the walls and the floor. Your vault will be perfectly pure for a long while to come.

DEAR SIR: My fondness for "native grapes and wine" is my apology for addressing you. And permit me, in the outset, to return my thanks to the author of a really practical and common-sense book on this subject. I trust that your teachings, when more generally disseminated, will be the means of awakening a new and profitable industry in this part of the country. Expensive and complicated modes of training, together with effete or tender varieties, do not meet the wants of a people not yet recovered from the desolations of war. I am an enthusiast on the subject of fruits (so think my wise friends). I live in a climate and on a soil uncommonly congenial to the apple and grape. My latitude is thirty-five degrees and twenty minutes. My altitude, twenty-five hundred feet above tide-water. I am on the most southern bend of the great Allegheny chain. Our highest peaks reach seven thousand feet, and we have elevated plains or plateaus of four thousand feet. Our lowest valleys are from two to three thousand feet high. Our elevation gives us a cool climate, and our southern location a long summer and late fall. Our true grape region is the sunny sides of our mountains, bordering on our lowest and largest valleys. Here, at an elevation of three or four hundred feet, even the Isabella and Catawba do not rot. These mountains are generally rich and loose. The late frosts of spring and early frosts of autumn do not touch them. The fogs and heavy dews of summer are not felt in this stratum of air that rests

here. The peach always bears up there.

This country is the native home of the Catawba, and along our winding streams, and sunny hillsides, its congeners grow in great profusion and endless variety, some of which, I think, are of great value—possessing all the excellence of the Catawba, without its feeble habit, its blighted leaf or rotting fruit—possessing the vigor and prolific habits of the Concord, without its "foxy" aroma.

I have, the past autumn, made extensive researches for valuable wildings, and I flatter myself that I have not labored in vain. I will bring from their shady nooks, in their forest homes, eight varieties. I will give them vineyard culture on a warm hillside. If, after sufficient trial, they prove "first-class," the world may have them. If otherwise, they shall figure on no outcast list but my own.

What is the result of Mr. Langendorfer's further experience with his seedling of the Norton? Has it yet a habitation and a name in the vineyards of Hermann? Will a good article of sorghum do for the improvement of the acid juice? If it will, the successful manufacture of wine is placed in the reach of men without capital, and it may literally become the beverage "for the million." Every man in this country may literally "sit under his own vine," may drink his *own* wine; whisky and rum become scarce, and the jails and penitentiaries may advertise "rooms to let."

Please answer this, and oblige.

Your distant friend,

ROBERT ROGERS.

Webster, N. C.

Yours is a very interesting commu-

nication, and we wish that your hopes in the wild varieties you are trying to cultivate may be realized. Please let us know the results. From your description, yours should be an excellent grape region, and we trust you and your neighbors will give the matter due attention.

You will find a cut and sketch of the Hermann in this number.

We do not know about the practicability of using sorghum in improvement of acid must. So far, all the sorghums, syrup and sugar we have seen were in a very impure condition, and we would not like to use them in gallizing or improving must. We have always used the most refined sugar, generally crushed or powdered.

—ED.

George Leick, Cleveland, Ohio.—You ask whether we think the Cynthiana will do with you, and where plants can be had? If the Norton will succeed with you, we think the Cynthiana will, as their habits are very similar, and the latter is even a few days earlier than the Norton. Rogers' No. 1 (Goethe) would very likely ripen too late for you, as it is a few days later than Catawba. *Here*, it is an excellent grape, productive, hardy and healthy, and makes a very fine wine. Nos. 3 and 9, we think would suit you better. They are both excellent grapes. No. 3 is as early as the Delaware, with much larger berries, and we think just as good as it. No. 9 is also an excellent grape, and will ripen early enough for you.

The only *reliable* plants of the Cynthiana we know of now for sale are in

the hands of the Bluffton Wine Company, and their supply is nearly out.

PEKIN, ILLS., March 19, 1869.

GEORGE HUSMANN, HERMANN, Mo.:
DEAR SIR:—I write to know how is the best way to propagate the Norton's Virginia Grapewood by cuttings out doors. I have a large quantity I wish to put in this Spring. I see you claim they are very difficult to propagate in open air. You will please give me all the information you can, pertaining to this matter at an early day as *possible*.

Your friend, Samuel Miller, gives a pretty clear idea on this point in question. I do not wish to fail in this matter, for I have some 40,000 cuttings of the Nortons to put out, and I have no glass to spare to put over them. Yours, truly,

W. J. SMITH.

We can not give you much comfort about growing the Nortons from cuttings in open air. Perhaps the method given in our March number will be the best you can follow. Grape-growers here consider themselves lucky if they average ten per cent. of Norton's cuttings. We would also advise you to mulch heavily with saw-dust or spent tan, if you can get it. Everybody should know by this time, that the Nortons, Cynthiana, Arkansas, and Hermann, all belonging to the same class, will but seldom root from cuttings, and we throw away thousands of Norton's cuttings every year, simply because it will not pay to try to grow them in open air.

EDITOR.

B. H., Jerseyville, Ill.—You inquire for the best subsoil plow. We have so far used the subsoil stirrer, manufactured by Deere & Co., Moline, Illinois. We lately saw a subsoil stirrer at Peoria, manufactured by Plant & Co., which seems to us to have advantages over Deere's, however. Both are good implements, and their depth can be regulated by a small wheel, running in front of the share in the furrow under the beam. Your inquiries about wire you will find answered in this number, in the table of Saylor & Co. We generally use No. 12.

BARNESVILLE, Clinton county, Mo., }
March 16, 1869. }

MR. GEORGE HUMANN: I write to request you to send me a plant of the Martha grape, a No. 1 plant, put up so that it will reach me in good order. My reason for being so particular is, that I want to give it a fair trial by the side of a white Concord seedling of my own raising, to see which is the better grape.

I also have a white Clinton seedling which is of very fine quality.

I also have a seedling that has brought its second crop, and I think I would be safe in saying that it is as vigorous, hardy, productive and healthy, and of as good quality, as Concord, and earlier than the Hartford Prolific, as it was ripe and gone before Hartford was fit to eat. It bore two bunches the third summer from planting the seed, and last year, the fourth, it bore twenty good bunches, besides making a strong growth of new wood.

Yours truly, O. P. MORAN.

Our friend's experiments with new seedlings are certainly interesting. We

would like to hear further of his seedlings, and if he will send us a few eyes of the wood of each, would like to try them, under a pledge of giving our experience with them, but not letting them out to any body or selling them. If they are really of value, such a test could only be desirable. Will he not tell us how he obtained them; whether they are accidental seedlings, hybrids, or crosses? Will others who have new seedlings, for which they claim merit, do the same? We shall be glad to hear from them, and give their seedlings a trial.

EDITOR.

LEE'S SUMMIT, Jackson Co., Mo., }
March 15, 1869. }

What insect eggs are those so numerous on my grape vines, found in trimming them recently?

Wish to learn all I can about raising grapes, but never expect to make wine.

Yours, J. L. RICE.

P. S.—The white grub injured my vines very much last season. Is there a remedy?

J. L. R.

KATYDIDS' EGGS.—Mr.

Riley informs us that the eggs you send, which are represented herewith as those of the oblong winged Katydid (*Phylloptera oblongifolia*, DeGeer); and that, though this insect has not hitherto proved itself injurious, he advises the destruction of the eggs, as they are unusually abundant the present year.



G. D., Lawrence, Kansas.—You ask our opinion about the measure now before Congress entitled "The protection of new fruits," and ask whether it has any chance of success. We have not given the subject very close attention, but think, upon the whole, it would *work* beneficial to the originator of a new fruit as well as to the public. Many a poor man grows a valuable fruit, but has not the means for its speedy and profitable propagation. Under the present non-protective system, he is compelled to sell out to some rich nursery man, who propagates it "ad infinitum," and sells it to the public at enormous prices. Could the originator be protected by a patent, to be issued at low figures, he could sell the right again to others in different sections of the country, and those who bought the right of propagation, at a moderate sum, would sell cheaper to their customers than new fruits can now be obtained when one man holds them, propagates them heavily, and, when he has an immense stock, sells at extravagant prices. We confess that objections may be brought against this, but we think they can be urged as strongly, and with as much

justice, against any other patent right. We do not know what its chances of success may be before the present Congress, but we think the tillers of the soil, the originators of new fruits, have as much of a right to reap the benefit of their discoveries and labors as the mechanic has for the results of his skill; and that Congress may be induced to see the matter in the same light.

Will any one of our readers give his views upon this subject? We should be glad to have it discussed in our columns.

G. S., Louisiana, Mo.—We could not publish your article, because it contained too many personalities. If you will "argue the point" without them, we shall be pleased to hear from you and publish what you have to say on the subject, but we are determined to keep personalities out of our journal. A man may *honestly* differ with us in opinion upon certain points, and we can argue that point in a *friendly* manner, without impugning his motives. The public and we will fare better, and learn more from such controversies than from *personal* attacks.



We had the pleasure of a call from Mr. A. J. Caywood, of Poughkeepsie, New York, the originator of the Walter grape. Mr. Caywood is evidently an ardent and sincere grape culturist of long experience. He is confident that the Walter possesses superior quali-

ties over any of the grapes now cultivated, and all he asks is that it should be fairly tried all over the Union, and the results made known. We shall give it a fair trial at Bluffton, under our own supervision, and will in due time report progress.

OUR CLUB RATES.—To any person who will send us \$8.00 we will send five copies of the *GRAPE CULTURIST*, for one year, to such address or addresses as he may designate.

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
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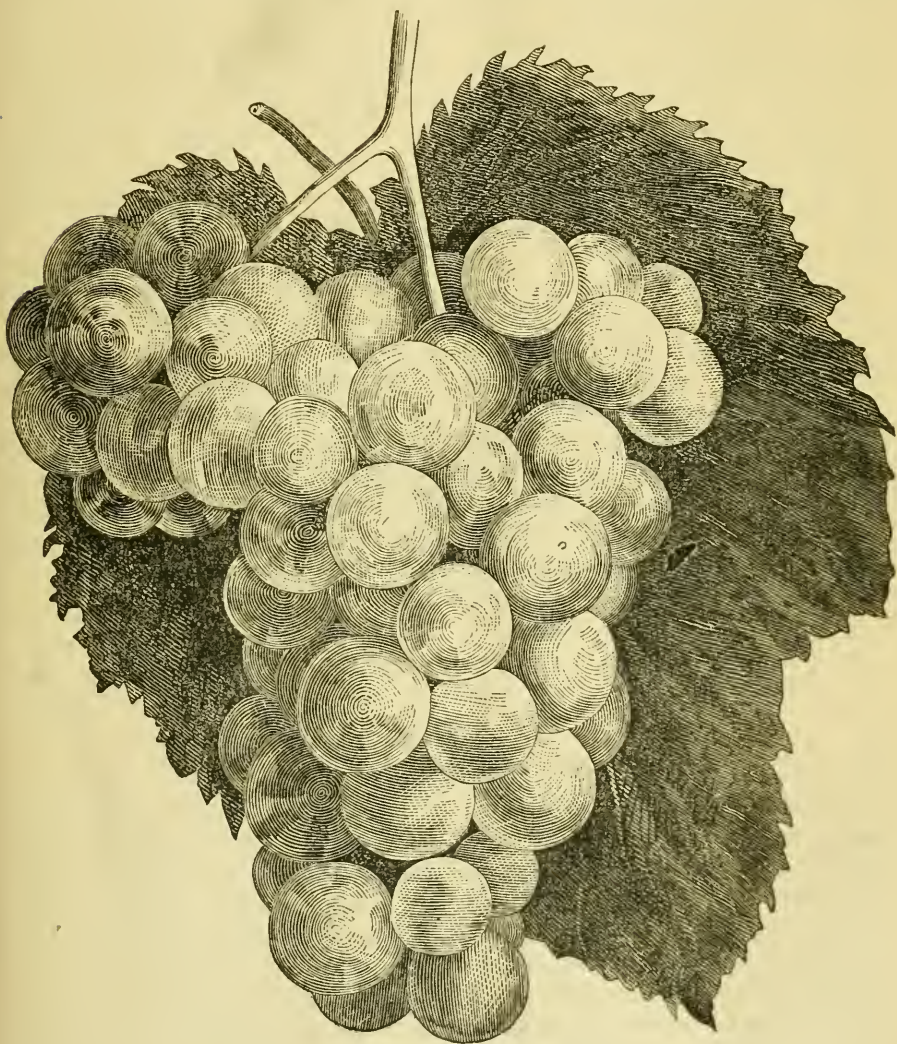
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THE GRAPE CULTURIST.

VOL. I.

MAY, 1869.

No. 5.



THE MARTHA. (*See next page.*)

THE MARTHA.

Among all the newer grapes, none has come before the public more unpretendingly, and made its way into general favor more rapidly, than this. It seems to win golden opinions wherever tried, on account of its hardness, good quality, and productiveness; and we predict for it an even greater popularity than for its parent, the Concord, at present the most popular grape in the country.

Bunch medium, moderately compact, shouldered; berry medium, round, greenish white; when fully ripe, pale yellow, covered with white bloom; sweet, juicy, but somewhat pulpy, often containing but a single seed, slightly foxy, which is, however, much more apparent in the fruit than in its wine; skin thin, without harshness or acidity. The vine is perfectly healthy and hardy, resembling the Concord, but the leaf is of a somewhat lighter green; very productive, and the berries hang well to the bunch. It propagates readily from cuttings.

We have made wine from it twice, and it has even surpassed our expectations. The must will range at least ten degrees higher than the Concord. The wine is of a light straw color, of very fine flavor, without any offensive foxyneess, and will, without a doubt, become the popular *white* wine for the masses, as the Concord has already become the popular *red* wine. But the Martha is superior to the Concord, being smoother and of better flavor and body. This season we mixed some of the must with the Maxatawney, in equal parts, and think the wine one of the best white wines we have ever made or tried.

For its origin and history we refer to our January number; to the article of our friend Miller. The highest authorities in the country seem to be unanimous in its praise. Time of ripening, a few days earlier than the Concord. It will, therefore, suit even the most northern localities.

THE VINEYARD.

WORK FOR THE MONTH.

May, with its genial sunshine, is especially the pushing and growing month, and the vintner will have enough to do, tying the young shoots of his vines destined for next year's canes, summer pruning and pinching, etc. In tying up the young canes, his object should always be to train them where they have the most room on the trellis, and as speedily as possible, to the

upper wire of the trellis along which they may be led, and form a leafy canopy, shading and protecting, but not smothering, the fruit below. The best material for tying is the inner bark of the Pawpaw, slit into convenient strips. Bass wood bark is not quite strong enough, and is apt to be rubbed through by the friction of the branches; and twine is too expensive.

Rye straw cut in convenient lengths, also the husks of corn, slit and soaked in water, and the leaves of the Adams Needle (*Yucca filamentosa*) are also good. Of summer pruning, we shall treat in a separate article.

As soon as weeds appear, after the first plowing and hoeing, plow and hoe again, but more shallow than the first time, and *always* in dry weather. Keep the ground well pulverized, especially in your new plantations, around the young vines. They will grow much more freely.

Examine your grape grafts, and rub off all suckers from the stock below, as they will rob the graft of the nourishment properly belonging to it. But take care that you do not move the scion, or rub off the buds on them.

Do not be impatient if the scions do not start at once. They always start later than the stock; very often even, the principal bud having started, it drops off again, and the side bud or dormant one (of which there are two besides the principal one, on each well developed joint—each bud in fact being triple,) will start a week, or even a month later. As long as the scion is fresh and green, there is hope that it will grow, and those starting late will often make up by rapid growth for lost time. Keep them well covered with saw dust or tan, so as to shade them from the sun, and keep them moist, while the young buds can easily penetrate it.

Fill up around your layers with well pulverized soil, and as soon as they have grown fifteen to eighteen inches, pinch off the leading shoot. They will become more stocky, and make better roots.

Examine your cutting beds, and keep them clean and mellow, plowing between the rows and loosening around the cuttings with hoe and weeding fork. Should the weather threaten to become too dry, and you can procure saw dust or spent tan for mulching, it will be of great benefit to them. If you can not procure these, mulch with well pulverized earth, drawing it up over them, but it will not do to let this bake and harden into a crust.

In vineyards planted this spring, leave no more than one shoot to grow, rubbing off all others; but on this allow all the laterals to grow, as that will make it more stocky. On vines in their second year, if they start strong and vigorously, you can leave, on strong growing kinds, from three to four shoots, as they should have two to three bearing canes the next year, and one spur as a reserve near the ground. Look sharp after all noxious insects, especially the steel blue beetle, the different small worms which make their nests in the tips of the young shoots; but protect the lady bug, the Mantis and its eggs. They are among the best friends you have.

♦♦♦
TRIAL OF WINES AT HERMANN, MO.—On the 17th of May, a trial of wines will be held at Hermann, to which the friends of good wine are cordially invited.

No premiums will be awarded, the grape growers simply intending to compare their wines and discuss their merits. But those who know the reputation of the Hermann wines, will need no assurance that they will find abundance of them, and of such quality that the duty of sampling them will become a pleasure. We hear that several new seedlings will be exhibited as candidates for public favor, together with the tried veterans of many a hard fought field; and trust that the admirers of the grape and its products will need no further inducement to be present.

THE PRODUCTION OF IMPROVED VARIETIES OF NATIVE GRAPES FROM SEEDLINGS.

BY JOHN J. WERTH.

However the very interesting experiments now being prosecuted, for the improvement of the grape by hybridization of the *Vitis Vinifera* with our American species, may eventuate, it is beyond question that we have before us an unlimited field for improvement, by the production of new varieties from seedlings of our native stock. The process is so simple, and inexpensive on a moderate scale, and requiring only two elements of success—patience and perseverance—that there is encouragement to hope that a general interest will be enlisted amongst our grape culturists in the enterprise.

As a probable means of increasing the chances of success, I would suggest the drying of the seed, clear of the pulp, and their preservation in that condition until the proper season for planting in the spring—unless it is known that the vitality of the seed is thereby seriously impaired, which I do not believe.

My reason for this suggestion is drawn from analogy. *Some fruits will not hold their improvement, if the ripened seed are permitted to fall and seed themselves*—producing what we call “volunteers.” The tomato is a remarkable example. Not one vine in fifty produced from seed that wintered in the ground—a volunteer—will produce any other than the small, round original fruit that was common in our gardens fifty years ago.

It matters not the least how highly improved the fruit that produced

the seed: the seed thus treated will very rarely reproduce the same improved fruit. I suppose all observant gardeners must have been struck with this peculiarity of the tomato. It seems that the seed must undergo the drying, concentrating process in order to enable it to maintain the improvement of the fruit. How can the mere drying of seed so seriously affect the character of the fruit? I do not know. Perhaps a wise Creator has determined that whatever is worthy of preservation is worthy of care in its preservation. And if this care is necessary to maintain an improvement, it must be indispensable to its advancement.

It is notorious that seedlings of the improved varieties of our native grapes, except in very rare cases, lose their improvement and “breed back” to rude progenitors. Perhaps they are in most cases propagated from seed that have fallen and seeded themselves—producing volunteers—or have been preserved in the pulp, or in damp sand. In either case the obstruction to improvement would intervene, if the principle which governs the tomato also controls the grape.

It seems to me, at any rate, worthy of experiment to ascertain, whether improvement may not be more readily secured by drying the seeds of all fruits before committing them to the earth, unless they are designed to raise mere stocks.

[We can not entirely concur in the views of our friend. Most of our

present most valuable varieties are chance seedlings. We name among them the Cunningham, the Norton, Cassady, Maxatawney, and the whole class of the Labrusca family almost. It would therefore not seem to us that the comparison with the tomato, although analogous, would hold good in regard to the vine.

A new seedling, which has come under our notice recently, would also seem to indicate that most of the valuable varieties come by chance. It has as yet, although a "habitation," not even a "name." In the summer of 1866, we passed through the vineyard of Mr. Tobias Glaser, about two miles below Hermann, and he called our attention to a seedling grape in his vineyard, which, as near as we could find out, is an accidental seedling of the common Fox, or Halifax, the type of the Labrusca. He wished to hear our opinion about its merits, and whether it was worthy of cultivation, or should be grafted. After tasting the berries, we came to the conclusion that they contained good qualities for wine, and requested him

to take care of it. A few days since he called us to test a sample of the first wine made of it, which we found of such fine quality, that we persuaded him to send a bottle to Alton, to the exhibition of the Mississippi Valley Grape Growers Association. He did so; it was entered for competition in the class of "best white or light colored wine from any grape," and the committee were so much pleased with it that for some time they were in doubt whether to award the premium to the Taylor, or to this. The Taylor finally carried the day, it being a heavier wine, and, in the opinion of the committee, of more commercial value; but they stated in their report that they would prefer the new candidate as a *table wine*, because it had a very fine aroma, and a pleasant acidity, which would induce those who tried it to drink more of it. It was certainly one of the best wines of its class there exhibited, competed with Taylor, Delaware, Herbemont and Catawba, and will, we doubt not, make its mark. Yet it is an "accidental seedling."—
Ed.

THE LAKE SHORE GRAPE GROWERS' ASSOCIATION AGAIN.

We have just received from friend Griffith the following circular, calling a meeting of the Lake Shore Grape Growers, for the purpose of forming a society independent of the present Ohio Grape Growers' Association. From all we can learn, there seems to be general dissatisfaction among them about the transactions of that

meeting (which we partly published in the March number), especially upon the resolution excluding *wine* from their exhibitions.

This is as we expected. We could hardly believe that those who are *in earnest* about grape growing, the real working, practical vineyardists, could bear a part in such a resolution, which

to us seems an insult to the noble profession they follow. However, others may look at the matter in a different light, and our columns are open to both parties to discuss this question, provided they do it without bitterness and in a courteous manner.

EDITOR.

At a preliminary meeting of the grape growers resident on the south shore of Lake Erie, held at North East, Pa., on Saturday, March 6th, the following resolutions were, on motion, adopted:

Resolved, That, in the opinion of this meeting, the action of the late Lake Shore Grape Growers' Association, in changing its name, and practically confining its influence to the State of Ohio, renders it expedient for the grape growers on the shore of Lake Erie, without regard to State divisions, to organize an association to promote the culture of the grape on the Lake shore.

Resolved, That the grape growers on the south shore of Lake Erie and vicinity be invited to meet at Erie, Pa., on Saturday, March 20, 1869, for the purpose of organizing a "Lake Shore Grape Growers' Association," and that a committee of five be appointed to issue a printed call, and make arrangements therefor.

WILLIAM GRIFFITH, *Ch'n.*

EDWARD F. UNDERHILL, *Sec'y.*

The undersigned committee, appointed under the foregoing resolutions, cordially invite gentlemen interested in grape culture on the south shore of Lake Erie, without regard to State divisions, to meet in the Court House, in the city of Erie, Pa., at 12 M., for the purpose of organizing a LAKE SHORE GRAPE GROWERS' ASSOCIATION.

The increasing magnitude of grape

culture in America, and the marked success which has attended it in the States of Ohio, Pennsylvania and New York, on lands in immediate proximity to the Lake waters, renders it eminently fitting that those possessing such advantages of soil, situation and climate, should recognize a unity of interest by acting in concert for the promotion of that important branch of industry.

Confident in this belief, the committee express the hope that there will be a large attendance of grape growers in response to the invitation.

J. E. MOTTIER, North East, Pa.

G. W. STARR, Erie, Pa.

E. LUCE, Ashtabula, Ohio.

WM. GRIFFITH, North East, Pa.

E. F. UNDERHILL, Brocton, N. Y.

The following gentlemen have signified their approval of the call:

Stephen Griffith, Charles S. Mottier, John French, John W. Fall, W. A. Ensign, J. M. Mills, Horatio Churchill, William Randall, James Phillips, Ebenezer Munger, S. S. Spencer, Alfred Leet, Calvin Leet, James Allis, A. Pierce, Joel Loomis, Wm. Dewey, Henry Southard, Edward Grenette, J. M. Mills, John Griffith, John Newton, J. B. Moorhead and Alexander McCord, of *North East, Pa.*

George W. Palmer, E. C. Bliss, Lorenzo Bliss, Robert Thompson, Henry Remer, Robert Hall, Niagara Hall, E. S. Bartholemew, Orris Parsons, L. A. Skinner, Dr. A. S. Couch, Dr. G. A. Hall, A. L. Blowers, H. A. Blowers, W. T. Hines, J. Reckembrode, Thos. Horsecraft and Elisha Sanders, of *Westfield, N. Y.*

G. E. Ryckman, Florence Hildebrand, Hon. J. B. Fay, Clinton Brad-

shaw, T. Judson, Charles K. Judson, T. L. Harris, L. Oliphant, Clinton S. Fay, Henry Sage, T. S. Moss, Joseph L. Hatch and Hugh Moshier, of *Brocton, N. Y.*

R. D. Fuller, J. G. Weld, Edward Underhill and Fred. E. Underhill, of *Portland, N. Y.*

T. S. Hubbard, A. S. Moss, R. W. Gardner, U. E. Dodge, G. D. Hinkley, Ira Porter, W. H. Stevens, D. Fairbanks, O. W. Johnson, W. McKinstry, N. C. Carling, John Watson, Dr. A. Wheelock, William Risley, J. Parker, J. B. Gardner, S. S. Crissey, L. S. Howard, George Nobles,

L. B. Webster, James Lowell and T. W. Bristol, of *Fredonia.*

Edmund Day and R. B. Day, of *Dunkirk.*

George W. Smith, of *New Jersey.*

P. W. Anderson, A. R. Dunning, O. F. Ellis, W. L. Ellis, S. V. Holliday, Edwin Smith, J. M. Strong, John Blacknar, A. Wilson and A. Eaton, of *North Springfield, Pa.*

John Blair, D. P. Blair, J. E. Smith, N. Francis, A. Francis, James Silverthorn, G. W. Dalla, Albin Anderson, John Silverthorn, Charles Pettibone and C. C. Selden, of *Girard, Pa.*

WINE CELLARS FOR NEW BEGINNERS.

Thank God, we have a President, and I can talk with you about the wine business, and my experience in it. Although only beginning in the fall of 1867, I think I may have some ideas which are not known to wine-makers generally. First, I will tell how I built my cellar. I dug it fourteen feet deep, twenty by thirty; laid up the wall eight feet high; put on joists two by twelve over them; laid down a rough floor. My wall is brick. A foot wall is strong enough. Then I carried up the wall eight feet, eight inch (a foot would be better), put on my joists, and laid a double floor of rough boards. On top of this I built my wine house, two stories high. My casks are let down inside, through hatchways. The first floor I use for pressing, mashing, etc., etc., running my wine through hose into casks in the upper cellar, which floor

is stayed by braces about every ten feet, from joist into wall, the braces extending from the wall about five feet, and below the joist about three feet; then they are out of the way of the casks. I banked my wall up to the sills of the building, or, rather, about three inches above, protecting the wood from decay by putting on a coat of hot coal tar. I also tarred the ends of the joists. The object of laying double floor on upper joists is to keep out the cold in winter, and heat in summer. Such a cellar and building cost about \$1,400 complete, including guttering and painting. The bottom is dry, except at one end; there I dug a small hole for the water. I have to pump it out every other day, which takes from ten to twenty minutes. I find my two-story cellar very handy. When I racked off my wine last month, all I had to do was to

attach hose to faucet, and let the wine run. I built a cistern, and from near the bottom of it I have a one and a quarter iron pipe (strainer on the end in cistern) running into my lower cellar, with a faucet to it, (I tarred the outside of the pipe), which is right handy. In my cistern I have a force pump; when I empty a cask I take out the main head, put a small nozzle on the end of the hose, the other end to the force pump; one man works the pump, and the way it cleans the cask would do your eyes good. After cleaning, I sulphur. I melt with the sulphur some nutmeg, say one ounce of nutmeg to the pound of sulphur. I forgot to say that I have at the end of each cellar a small window, for ventilation—north and south ends. I have tried several things to keep the hoops on casks from rusting; and the best thing, in my experience, is coal tar put on hot. And for the staves, first boiled linseed oil, put on boiling hot, and then, a good coat of varnish. I made, last fall, six hundred gallons Delaware, and eight hundred gallons Concord, mixed with a small quantity of Catawba. My wine of 1867 is pronounced first-rate.

I must tell you how I stay my posts for wire. After I set my end posts, I dig a hole two and a-half feet deep, about a foot from the post. I twist two wires together, fasten one end in the middle of a piece of joist, two by eight, and sixteen inches long; the other end is put through the post about two and one-half feet above the ground; the wire and anchor is well tarred. I find the above is cheaper and far better than braces. For fastening the wire at the ends, I bore three-

eighths holes through the posts the proper distance apart, fasten one end, the other end is brought through the post, drawn tight with a pair of blacksmith's pincers, and a hardwood pin drove in. If at any time the wires slacken, they are easily drawn tight.

The second story of my wine house is used to put the grapes in when gathered. I hoist them up through a door in the end of the building. From the upper story I have a spout leading to the mashing mill. A child twelve years old can attend to the feeding of the mill.

Now, Messrs. Editors, if you know of a more convenient wine establishment, on a small scale, I should like to hear of it.

Parties are selling wine here in this town for fifty cents a bottle, made last fall. I have to do the same. What kind of wine can it be?

I remain, etc., etc.,

JOHN L. MOORE.

[Our friend has our thanks for this communication. He is evidently a practical man, and his establishment is certainly arranged in a systematical and convenient manner. It will be of use to new beginners with small means.

Concord wine can be sold very well at fifty cents per bottle, and even cheaper. It would still be forty cents per bottle, deducting bottle, or two dollars per gallon. We hope to see it sell thus every where, so that every laborer can drink it.]—ED.

SUMMER PRUNING THE VINE.—No. 2.

We come now to the second stage of summer pruning, and shall try to be as explicit as possible in describing our mode. In answer to numerous inquiries, we will state that this practice was first followed here by Mr. William Poeschel, one of our most observant and best vine dressers. He perceived that some shoots, of which the ends had been eaten off by worms at a very early time, developed their bunches much more rapidly and evenly. He stated the fact to us in the summer of 1852, also showed us some rows he had pinched in this manner, and some he had treated in the old manner of summer pruning, namely, waiting until after the bloom, and then pinching or cutting the shoot two leaves beyond the last bunch. The difference was so marked and apparent in favor of the new method over the old, that we were at once convinced of its advantages, and advocated it through the press. We can well remember a very warm controversy we had about this in the columns of the *Cincinnatus*, and are happy to say that it ended in a conviction of our friend Warder to the "new heresy," of which he became a warm advocate from that time on. We could state many similar cases; and the success of Mr. M'Pike at Alton, so often commented upon in public, is owing, to a great extent, to his following this method as soon as his vines commenced bearing. It is one of the discoveries the diligent observer of nature so often makes, small in itself, but important in its results, and which each of us can make every

day if he will observe the habits of his plants thinkingly, and draw conclusions from his observations.

After the first pinching, the dormant buds in the axils of the leaves on the fruit bearing shoots will each push out a lateral shoot opposite the young bunches. Our second operation consists in pinching these laterals each back to one leaf as soon as we can get hold of the shoot above the first leaf, so that we get a young and vigorous leaf additional, opposite to each bunch of grapes. These serve as elevators of the sap, and also as an excellent protection and shade to the fruit. Remember, our aim is not to rob the plant of its foliage, but to make *two* leaves grow where there was but *one* before, and at a place where they are of more benefit to the fruit. Had we allowed the fruit bearing shoots to grow unchecked, as some grape growers advocate, these buds would have remained dormant; the old leaves drop off in August, and the fruit is exposed to the scorching sun. Besides, the branches intertwine so with their tendrils that it is very difficult to manage them afterwards. By our method, our rows of vines have the appearance of leafy walls, each bunch of fruit properly shaded, and yet each part of the vine is properly ventilated.

We come now to another of those accidental discoveries, which has proved of great use to us in the management of the Concord, Herbemont, Taylor, etc. In the summer of 1862, when a piece of Concord, planted in 1861, was growing rapidly, a severe hail storm cut up the young shoots,

completely defoliating them, and breaking the tender and succulent shoots at a height of about two feet. The vines were growing rapidly, and the dormant buds in the axils of the leaves immediately pushed out laterals, which made very fair sized canes. In the following fall, when we commenced to prune, we found from three to five of these strong laterals on each cane, and accordingly shortened them in to from three to five and six buds each. On these laterals we raised as fine a crop of grapes as we ever saw, certainly much finer than we had ever before raised on the strong canes; and we have since learned to imitate hail storms, by pinching the leaders of

young shoots when they have grown say two feet, forcing out the laterals, and growing our fruit on the latter: thus meeting with another illustration of the old proverb, "It is an ill wind which blows nobody any good."

In our next number we shall take up the third and last pinching, thus giving our system of summer pruning complete. Will not some of our friends give us their methods, and the reasons for them? We expect to differ with many, and as we think a proper course of summer pruning one of the most important questions in grape culture, would like to have it fully discussed.

HISTORY OF THE NORTON GRAPE.

BY JOHN J. WERTH.

This valuable member of our present family of wine grapes was introduced to public notice about forty years since by Dr. D. N. Norton, an amateur horticulturist, residing at the time at Magnolia, near Richmond, Va. For many years after its introduction, Dr. Norton's authority was quoted to sustain its character as a *hybrid* between Miller's Burgundy (a *Vitis Vinifera*) and the Bland (a *Vitis Labrusca*). I think, however, the most that Dr. N. ever claimed for it was that it was a seedling of the Bland, maturing near a Miller's Burgundy, and *probably* a hybrid, as this is the extent of a published account made about that time on the authority of Dr. Norton.

However this may be, it is very clear, from the appearance and character and habits of the vine, that neither of its reported progenitors had any agency in its production, and public opinion, in the region of its early history, has many years since settled down in the conviction that the *Norton*, or *Norton's Virginia*, or *Norton's Seedling*, as it is variously called, is a true native from our forest.

My venerable friend, Gen. Wm. H. Richardson, whose attention was attracted to the grape on its first introduction, has repeatedly assured me that he at once, and unhesitatingly, recognized it as identical with a wild grape growing on a locality familiar to him in Hanover county, about nine

miles from Dr. Norton's residence in Henrico. If it originated from seed in the Doctor's garden, it was doubtless brought there by a bird that had gathered it from a wild vine. The idea of its being a *hybrid* between the two grapes named is removed beyond the pale of probability by the fact that they are not in bloom at the same period. There is no hazard in classing it as a true *æstivalis*.

During an experience of upwards of thirty years with this grape, I have never known it, under any circumstances, to be affected with any disease of leaf or fruit; and the pure juice, without any admixture whatever, has produced, under the simplest management, wine that I have kept not only sound for eighteen years in unsealed bottles, in all temperatures up to 100°, but which was at all ages pronounced by experts to be unsurpassed by any product of Europe.

These two characteristics—perfect healthiness of vine and fruit, and the perfect adaptation of the latter to conversion, by the simplest process, into *wine that will sell wherever wine is drunk*, will insure to this variety an enduring popularity wherever the season will admit of its thorough and perfect ripening.

In Pennsylvania, New York, and Ohio, I have seen this grape severely criticised on account of the harshness of its flavor. With us, in Eastern Virginia, its drawback as a table fruit is found in its superabundance of sugary sweetness, when perfectly ripe. It lacks the vinous sprightliness indispensable to a fine table fruit.

We are thus, at every step, reminded that if we expect to succeed in wine making, we must carefully select, for our particular region, the varieties of grapes *that find a congenial home just there*.

CAUSES OF FAILURE IN GRAPE GROWING.

By ISIDOR BUSH.

We do not intend to write a sermon; we do not wish to write for those who need be reminded that there are certain elements of success, without which men cannot succeed in any vocation, and which are equally essential, nay indispensable, in those who expect to cultivate the vine successfully; we do not speak to those who need be told that he who idly looks into the clouds in spring or summer, cannot reap this noblest of fruits in fall.

But there are those to whom blessed labor is no burden, who have been

successful in other branches of industry and even of agriculture, and yet have sadly failed in their attempts at grape culture. And by examining into the causes of *their* failure, it is that we may hope to guard against similar errors, and to find the way to success which has so richly rewarded some of our grape culturists.

1.—ERRORS IN THE SELECTION OF VARIETIES.

We mention these *first*, because they form part of the history of grape culture in America. They were the great cause of delay in its progress for cen-

turies. German, Swiss and French immigrants repeatedly tried the culture of the European Grape (*Vitis Vinifera*), but it generally proved a failure in this country. Two centuries, hundred thousands of dollars, and the labors of hundreds of zealous vintners devoting their lives to the culture of the vine, were lost in the attempt to establish the imported grape on this soil. And when we consider that all attempts to transplant the grapes of Spain and Southern France to Germany were in vain; that the varieties of Austria and Hungaria could not be successfully transplanted to the "Rhein;" that the Riesling of Northern Germany loses its delicious bouquet when transplanted to the Southern States of Europe, and the Bordeaux vine loses its character when removed from the vicinity of Bordeaux;—it is astonishing only that European vintners did not abandon much earlier their unsuccessful attempts to introduce the European vine on American soil, and did not begin much earlier to cultivate the native grape. No doubt some unscrupulous propagators, taking advantage of some temporary and exceptional success with a few European vines, carefully concealed their own failures and prolonged the error. We have before us a Catalogue of Grape Vines for Spring of 1869, printed at St. Louis, containing a long list of European grapes introduced by the following remark:

"EUROPEAN GRAPES.

"The varieties marked ¶ have been cultivated by myself for the last fifteen years in open ground, and find them very suitable to our climate, pro-

ducing fine fruits every year, and are never injured by the winter; I have only covered with three to four inches soil, and therefore I can recommend those sorts very highly. Those marked † I only cultivated since 1860, and find them just equal to the first, the rest I imported last spring; I have no doubt I will find the same result."

We knew the grounds referred to in the above for the last fifteen years, and can state that they never contained half as many bearing vines as the catalogue contains varieties.

That with special care, in very sheltered positions and in the peculiar atmosphere of large cities, some European varieties will produce fine fruits we admit; but whoever will attempt to grow them in ordinary vineyards, even with the best care, will find entirely different results.

Fortunately, the success of a Longworth and others with the Catawba, has inaugurated a new era in grape growing, and the error of selecting European grapes for vineyard planting is now committed by but very few. But with this new era, the errors of our grape culturists in the selection of varieties were not at an end, they were merely led in a different direction.

The Catawba was considered the grape for America—as if this vast land of ours, with such a diversity of soil and climate, would not, as surely as the different sections of Europe, find peculiarly adapted varieties for each section and prove less suitable for others. Many years of failures with the Catawba in most sections, have scarcely sufficed to cure the vine growers from this fatal error, and even

where they commenced to recognize this as their chief cause of failures, they now seek—in vain—for the grape for the million, for the best grape for general cultivation.

Most people now believe to have found that grape in the Concord; and we can safely assert that more Concords have been planted this spring than of all other varieties together, even the *Ives* not excepted, which seems to be considered as the universal or the American grape at least, by the people of Ohio.

Now, while we admit that these two varieties are probably the most hardy and prolific, best adapted for general cultivation, among the American grapes so far known—we see in this still a source of failures.

The fruit, and especially the wine of these two varieties is certainly inferior to many others we already possess, and this, together with the abundance

we shall soon have thereof, will not only make grape growing less profitable, but will retard our progress, by which alone we may hope to compete successfully in the end with foreign, imported wines.

Recently, at several exhibitions of American wines, where premiums for the best red wine and the best white wine—quality to rule—were offered, connoisseurs decided in favor of *Cynthia*, *Deveraux* and *Norton's* for red—in favor of *Taylor*, *Herbemont* and *Maxatawney* for white wines.

This fact alone should admonish us that we will fail to keep pace with other grape growers if we restrict ourselves to Concord or *Ives*, or adhere longer to the fickle *Catawba*, instead of testing other and better varieties, each on his own soil, and then plant those which succeed best in our locality.

(To be continued.)

THE MANUFACTURE OF WINE VINEGAR.

BY CHAS. H. FRINGS.

Wine vinegar is manufactured almost exclusively in wine growing countries, and the most important manufactories are in Orleans, France. The casks in which the wine is exposed to the air are called "mothers." They generally hold from sixty to one hundred and twenty gallons of the liquid, and rest on wooden frames, supported by either wooden or stone pillars, about eighteen inches high. Several casks are laid in a row, and, according to the extent of the business, there are eight, ten, fifteen or twenty rows, which are, if the pro-

cess is carried on in the open air, called the "Essigfald." Two holes are bored into the upper part of the front piece. The larger one is used for filling the cask with wine and drawing off of the vinegar; the smaller one is intended to supply the circulation of air in filling and emptying the cask. On account of the change in the temperature, every vinegar manufactory must have a separate, closed room for the purpose of fermentation, and this should be the subject of the greatest care to the manufacturer. One of the most important requisites

of this fermentation room is, that the wine in the same is exposed to an even temperature, and that a constant change of air is kept up. The ventilators are constructed in such a manner that they can be closed in cold or stormy weather. The walls are constructed of brick, or other material which is equally non-conducting, and are besides coated with wood or plaster. Apartments with low ceilings are best adapted to this purpose, because in rooms with high ceilings the casks have to be placed on high racks, so as to expose them to the warm temperature of the upper stratum of the atmosphere. Experience has shown that in apartments where the casks are stored in different heights, the uppermost work best and quickest.

To make preparations for the introduction of the wine, one-third of the mothers is filled with strong, boiling vinegar, and this constitutes the real mother; after this from two to three gallons of wine are added, and the mixture left to work by itself. After the expiration of eight days the wine is turned into vinegar, and a further quantity of wine is added; when this has become sour, the process is repeated, until the mothers are more than half filled. At this stage one-third of the contents of the mother is taken out by means of siphons, and the liquid allowed to run into the storage casks, when from two to three gallons of wine are again added, and the same left for acidification, and so on, so that the process is interrupted as little as possible.

Many manufacturers do not allow the quantity of vinegar in the mothers

to become so large, but draw off twelve to sixteen gallons after the sixth or eighth filling up.

In order to produce a good and uniform quality of vinegar, no more wine than the above mentioned quantities should be put into the mothers at any one time. It happens sometimes that the wine has not turned sour after remaining eight days in the mother. Formerly this could not be explained, as the casks in which this occurs are treated with the same care and are kept as warm as those in which the process is regular. Sometimes even those casks which lay in the warmest part of the room are the least advanced, or, as it is called, "inert." In such a case, nothing remains to be done but to empty the casks, and to fill them with strong, boiling vinegar, after which the sour fermentation commences again, and continues as regular as in any other "mother." Sometimes, merely the addition of a quantity of stronger wine, or an increase of the heat of the temperature, is required. This is, however, not to be considered as a sure way to remove the difficulty. The cause of this periodical inertness may, in most cases, be explained by the activeness of the vinegar eels. As long as the influence of the vinegar fungi was not known, this phenomenon remained unexplained; later investigations, however, have shed light on the subject.

It has been recommended to keep the mothers as much as possible separated from each other, and especially to use no iron in the construction of the casks, as the pores become filled up with vinegar, which, when coming in contact with the nails and hoops,

dissolves the same, and causes the destruction of the cask, so that the vinegar is made impure by the iron-salt which is generated in this way, and thus made unfit for many purposes.

To ascertain the progress of the fermentation, a crooked stick of white wood is inserted into the cask by the hole in front, and dipped into the liquid. If the stick is covered with heavy *white* foam, the fermentation may be considered perfect; if, on the contrary, the foam is red, another quantity of wine is to be added, and the temperature increased, until white foam is produced.

During the summer the prevailing temperature, especially in the southern part of France, is sufficiently hot for the production of vinegar; during the winter, however, the rooms are heated by stoves, which are placed in the same, to 80° Fahrenheit. In this way a good ventilation is also obtained. A temperature of from 75 to 80° Fahrenheit is most suitable for the production of vinegar. If everything works right, the "mothers" produce a quantity of vinegar of twice their size. By the sediment of the indissoluble parts of the fermenting stuff, and the accumulation of mother of vinegar and the settling of wine stone, the casks are filled up in such a way that it becomes necessary to empty and clean them every six to eight years. After a greater lapse of time the whole of the manufactory must be renovated, as the casks are more or less used up by constant use. It is, however, to be presumed that good casks may be used for twenty-five years. Wines which are not clear are put into casks containing chips

and shavings of beechwood before they are used, and which are called the clearing casks. In these they remain undisturbed for some time, and are finally drawn off through a faucet at the bottom. It often happens that the vinegar is also not clear. This is mostly the case when light wines are used, as they contain many organic substances which are decomposed by the process of fermentation, and remain in the liquid. This defect is remedied by treating the vinegar in the same way as muddy wine. The vinegar is thus rendered perfectly clear and ready for the market.

This process, which is universally in use in France, and is known as the "Method of Orleans," has been somewhat modified by Pasteur. These alterations are described as follows:

The vinegar fungus is scattered on a liquid, composed of water to which are added two per cent. alcohol and one per cent. vinegar, and which contains also some traces of phosphate of alkali and other earth. The little plant grows and soon covers the entire liquid, without leaving a single vacant spot. The alcohol turns sour at the same time. As soon as this process is in full operation—that is, when about half the alcohol is turned into vinegar—small quantities of alcohol, wine or beer mixed with alcohol, are added daily.

As soon as the operation becomes weaker, complete acidification of the alcohol still contained in the liquid has to be waited for. After this the vinegar is drawn off, and the fungi collected to be washed and made ready for future use.

The same apparatus, cask or barrel

is again filled with liquid, and the fungi obtained by the former operation placed upon it. Care has to be taken, however, that this fungus is never without the necessary quantity of alcohol, as it would then have to give the oxygen to the acetic acid, and transform the same into carbonic acid and water, and thereby the peculiar flavor which characterizes the wine vinegar would be destroyed.

The fungus must, moreover, be used again as soon as possible after having been taken from the liquid, because it loses its vitality if not in contact with alcohol for any considerable length of time. Another not less important precaution is, not to allow too strong a development of the fungus, as thereby its activity would be increased to such a degree as to destroy the acetic acid, even if alcohol is contained in the liquid.

A tub with a surface of one square yard, and which holds from twelve to twenty-five gallons of liquid, will yield from one to one and one-half gallons vinegar. The progress of the operation is ascertained by means of a thermometer, whose globe is immersed in the liquid and the scale of degrees kept outside of it.

The vessels best adapted for this purpose are shallow, round or square tubs, with covers, on both ends of which small holes are bored to admit the air. Two gutta percha tubes, which are fastened to the bottom and perforated at the sides, allow the admission of alcoholic liquids without lifting the cover or disturbing the fungi on the surface. The tubs which were used by Pasteur had a surface of one and one-fifth square yards, and

were only five inches deep. The advantages of this process are, according to his statement, more apparent and striking in proportion to the size of the vessels and the lower state of the temperature.

For the cultivation of the fungi, the presence of phosphates and ammonia is necessary. If wine, or an infusion of malt, etc., is used, a sufficient quantity is therein contained. If, however, alcohol is used, they have to be directly introduced by adding a quantity of phosphate of ammonia, phosphate of potassa and phosphate of magnesia, so that the liquid contains 1-10,000 per cent. of this mixture of salts, which is added after having been dissolved in a little vinegar. It has been known long ago that bread, raisins and malt accelerate the formation of vinegar in alcoholic liquids. The probable cause of this is, that by these additions the fungi receive the necessary mineral nourishment.

THE FABRICATION OF CORKS.—We copy from the "Annales de Commerce," the following interesting items. "This branch of industry is a source of large income for the Province of Gironne, the annual crop amounting to about 12,500,000 pounds of corks. To meet the demand, which amounts to about 15,500,000 pounds, about 30,000,000 pounds of raw corks are imported from Andalusia, Estramadura, and from the district of Arengs de Martans in the province of Barcelona. About 80,000 men, women and children are employed in this trade, of which 3,340 are engaged in cutting the corks for bottles, etc. The annual produce amounts to about 1,233,000 millions of corks and their value is estimated at about 15,500,000 francs. The value of the raw material may be estimated at about three million of francs. The principal factories are at San Feliciada, Guizols, Palafurgen, Palairo, Varnens and La Junquera.

THE MEETING OF THE MISSISSIPPI VALLEY GRAPE GROWERS' ASSOCIATION, AT ALTON, ILL., APRIL 13TH AND 14TH.

This was truly one of the most pleasant gatherings which it has ever been our good fortune to attend, and we only regretted that, on account of the busy season at which it was held, only so few of the grape growers were able to attend. However, those who were there were good representatives of our earnest, working vintners, and the samples of wine which they brought, or which were sent by others, were, as well in quality as in number, the best proof that American grape growing is making rapid and satisfactory progress. In another column we give the full list of the entries made, and their grading by the different committees.

The meeting was called to order by the President, Dr. C. W. Spalding, at 10 o'clock A. M. As the Secretary, Mr. Wm. Muir, was prevented by a serious accident to be present, Mr. Pierson, of Alton, was chosen Secretary *pro tem*.

ADDRESS BY THE PRESIDENT.

Gentlemen of the Mississippi Valley Grape Growers Association:

In the Providence of God we are again permitted to assemble together for the purpose of interchanging views and comparing our experiences relative to that most enticing branch of horticulture which is the object of this society to encourage and promote. Custom demands a few opening remarks from your presiding officer, but in conforming to his usage, I shall on this occasion be very brief, believing that your time will be more profitably occupied in the discussions and other regular business which will come before the meeting.

The number of intelligent growers present at this, the fifth meeting of our young society, serves to confirm its founders in their previous conviction of the progress which the culture of the grape was making, and the proportions which it had already attained, demanded an organization devoted entirely to that particular speciality. Our society may now be said to have passed the period

of infancy, and to have entered upon the more active period of youth. May it soon attain the vigor and strength of manhood, and may it long maintain among the permanent institutions of our time a useful and influential position, which shall enable those who have labored for its establishment to look back with pleasure and pride upon their early efforts in its behalf!

The grape is one of the oldest and noblest of fruits. Secular history, in its earliest periods, contains interesting accounts of the vine and its culture. Indeed, in all latitudes where it successfully thrives, its history is coextensive with that of civilization and refinement. Even in climates too rigorous or uncongenial for its open culture, and where the product of the vine is regarded as a luxury, the gratification of a refined taste has led to a resort to artificial means for its production.

In our broad and noble valley the culture of the grape has but just begun. Its various soils and its diversity of climate afford an ample field for the introduction of kinds both new and old, and it may safely be predicted that the time will come when our wines shall equal in variety and quality those of any other portion of the world. Already what has been accomplished is sufficient to solve the problem of success, and what is more, to establish the fact that in *certain classes* of wine we can now compete successfully with the products of foreign countries. At no distant day the consumption of foreign wines will become the exception as it has heretofore been the rule, and we shall then have demonstrated to the American public that all which we have claimed for American wines will have been realized, and the millions of dollars that now go abroad annually for the purchase of the wines of other countries will be retained at home.

The efforts of this society should be directed towards the accomplishment of this stupendous result in the shortest practical time.

The question naturally arises, "How can this be done?" There are just two important things to accomplish and the work is done: First the production of wines in such great variety as to compete with all the foreign sorts, and second, to bring them to market at so cheap a rate as to displace the imported article. With red wines, this, to a considerable extent, has already been accomplished. Much the largest proportion of the red wines now imported belong to the Bordeaux and Burgundy classes.

Our Concord, Ives, Norton's Virginia and Cynthiana are being rapidly substituted for these wines; and when we shall have done for the white wines what these four varieties have done, and are now doing for the red, we shall have taken a long stride towards the end we are seeking to realize.

Our markets are supplied with wines from France,

Germany, Portugal, Spain, and the islands and shores of the Mediterranean. Our people are accustomed to the use of all these different kinds, and to possess ourselves of the American market, we must furnish wines similar to all these, or substitute for them other wines which shall prove equally acceptable to the tastes of consumers. That we are in a fair way of doing this with red wines, I have already stated. But what can be said of our prospects for substitutes for the light-colored wines, which are now so largely imported?

The old Catawba can not be relied on to supply this want to any considerable extent, for it is evidently failing even in localities where it has heretofore succeeded. Where, then, are the new sorts that are to yield these light colored wines? I can at this time name but a single variety of which it can be safely said that it has been sufficiently tested to give a fair promise of being equally hardy and productive with the four kinds named above. I allude to the Martha. There are other varieties, as the Maxatawny, several of the Rogers' Hybrids, etc., for which this claim is asserted, but up to this time they are still on trial, and no one could feel safe in planting them extensively. The same may be said of the Delaware, excepting in a few favorable localities where it is now doing well. Yet even at these points the vineyards are still too young to give entire assurance of ultimate profit.

The southern Estivalis, of which the Herbemont will serve as the representative, is not wholly suited to our climate. The more skillful and painstaking will grow them with success. Yet the winter protection necessary for this class of grapes is against their general introduction. The American grape grower demands something that will alike endure our summer's heat and our winter's cold.

For the production of a fair assortment of white wines, we must still look to the further introduction of new varieties, possessing the hardihood and productiveness of the Concord and Norton.

It becomes the members of this association, therefore, to test, individually, all new varieties which appear to have any just claim to filling this evident want. Several years are required to definitely determine the merits of any new grape, and if we were in possession of one or more sorts, at this time, which had all the requisite good points, a good deal of time must elapse before we could prudently recommend it for general cultivation.

In this connection, there is one point relative to the origination of new varieties, to which I wish to call attention. It is the almost universal custom of crossing our native species with the *vitis vinifera*, or European grape. None of this species have found a home on the eastern slope of our continent, but all of them have proved more or less liable to disease, and their cultivation for vineyard purposes has been wholly abandoned. Why then seek to infuse this sickly blood into our species? The best and most successful grapes we have are thoroughly native, and the four or five distinct species indigen-

ous to our country certainly cover all the points of excellence that can possibly be wished for. Why not, then, endeavor to combine these native excellencies by the crossing of our native species? I am confident that the highest success attainable from systematic cross-fertilization lies in this direction, and he who leads in the development of the latent resources which exist in this almost unexplored field will confer a lasting benefit upon the public, and reap for himself an ample reward.

After the President's address, the society proceeded to elect its officers for the ensuing year. The result was as follows:

President, James E. Starr, Elsah, Ill.; Vice President, George Husmann, Bluffton, Mo.; Secretary, Dr. L. D. Morse, St. Louis, Mo.; Treasurer, John H. Tice, Cheltenham, St. Louis County, Mo.

After the election, the different awarding committees on the wines exhibited were chosen by the exhibitors, a new plan, which seemed to give general satisfaction, and which we recommend for adoption on all similar occasions. They proceeded to their duties in the evening, after the wines had been numbered, registered and brought in. After they had been acted upon by the committees, they were passed out to the members, so that every one present had a chance to try them; and the orderly and pleasant manner in which the sampling of over two hundred bottles passed off, served to prove fully what we asserted in a former number, "that we in Missouri and Illinois *can* have wine trials without a single member being intoxicated, and that good wine is the promotor of temperance."

We are also fully convinced that not one of the exhibitors had the least cause for dissatisfaction with the awards of the committees, who per-

formed their difficult duties with the utmost deliberation and impartiality. The premiums were widely scattered, and divided between Missouri, Illinois and Ohio. Below we give the awards :

CONCORD.

First Premium—A wine cask, value \$25.00, and one copy of *GRAPE CULTURIST* \$2.00—\$27.00, and 50 per cent. of fees. Awarded to Messrs. A. and F. Starr, Alton, Ill.

Second Premium—A set of Farming Tools—\$15.00, and 30 per cent. of fees. Awarded to the same gentlemen on another sample.

Third Premium—One Toilet Set—\$10.00, and 20 per cent. of fees. Awarded to J. J. Kelly, Webster, Mo.

NORTON'S VIRGINIA.

First Premium—One two horse Plow, No. 12, \$17.00, and one copy of *GRAPE CULTURIST*, \$2.00 and *American Entomologist*, \$2.00—\$20, and 50 per cent. of entry fees. Awarded to Poeshel and Scherer, Hermann, Mo.

Second Premium—One Cultivator, \$8.00, cash \$5.00—\$13.00, and 30 per cent. of fees. Awarded to F. Mueller, South Point, Franklin County, Mo.

Third Premium—Two ten gallon Kegs, \$2.00, one copy *Rural World*, \$2.00, one copy *Journal of Agriculture*, \$2.00, one copy *American Entomologist* \$1.00—\$7.00, and 20 per cent. of fees. Awarded to Dr. G. M. Dewey, Keytesville, Mo.

IVES.

First Premium—One set of Farming Tools, \$10.00, one copy *Rural World*, \$2.00, one copy *GRAPE CULTURIST*, \$2.00—\$14.00, and 50 per cent. of fees. Awarded to E. A. Thompson, Cincinnati, Ohio.

Second Premium—One Plow, \$8.00, and 30 per cent. of fees. Awarded to Bluffton Wine Company, St. Louis, Mo.

Third Premium.—No entry.

CLINTON.

First Premium—One Julien Churn, \$10.00, one copy *GRAPE CULTURIST*, \$2.00—\$12.00, and 50 per cent. of fees. Awarded to James E. Starr, Elsah, Ill.

Second Premium—Two ten gallon Kegs, \$2.00, one copy *Rural World*, \$2.00, one copy *Journal of Agriculture*, \$2.00, one copy *American Entomologist* \$1.00—\$7.00, and 30 per cent. of fees. Awarded to Bluffton Wine Company, St. Louis, Mo.

Third Premium—Two ten gallon Kegs, \$2.00, *Journal of Agriculture*, \$2.00, *American Entomologist*, \$1.00—\$5.00, and 20 per cent. of fees. Awarded to J. C. Coons and Bro., Winchester, Ill.

BEST RED WINE OF ANY VARIETY.

Premium—One two horse Plow, \$17, *Journal of Agriculture*, \$2.00, *Rural World*, \$2.00, *GRAPE CULTURIST* \$2.00, *American Entomologist* \$1.00—\$24.00 and all the fees. Awarded to Bluffton Wine Company, St. Louis, Mo., on Cynthiana, competing with Norton's, Ives, Devereaux, Mustang, and an unknown grape.

CATAWBA.

First Premium—One Wine Cask, \$25.00, *GRAPE CULTURIST*, \$2.00—\$27.00, and 50 per cent. of fees. Awarded to F. Braches, Gray's Summit, Mo.

Second Premium—Cash \$15.00, and 30 per cent. of fees. Awarded to Adolph Engelmann, Shiloh, Ill.

Third Premium—One Saddle, \$10, and 20 per cent. of fees. Awarded to J. J. Kelly, Webster Groves, Mo.

DELAWARE.

First Premium—Trellis Wire, \$15, and GRAPE CULTURIST, \$2.00—\$17.00, and 50 per cent. of fees. Awarded to J. D. Davis, Clarksville Mo.

Second Premium—One pair of Parian Pitchers, \$5.00, one pair of Pruning Shears, \$5.00—\$10.00, and 30 per cent. of fees. Awarded to E. A. Thompson, Cincinnati Ohio.

Third Premium—One Parian Pitcher \$2.50, Journal of Agriculture, \$2.00, American Entomologist, \$1.00—\$5.50 and 20 per cent. of fees. Awarded to Bluffton Wine Company, St. Louis Mo.

HERBEMONT.

First Premium—Trellis Wire and Staples, \$15.00, GRAPE CULTURIST, \$2.00—\$17.00, and 50 per cent. of fees. Awarded to Dr. G. M. Dewey, Keytesville, Mo.

Second Premium—One pair of engraved Decanters, \$6.00, one glass liquor thief, \$5.00—11.00, and 30 per cent. of fees. Awarded to Bluffton Wine Company, St. Louis, Mo.

No entry for third premium.

TAYLOR.

First Premium—One Bench Clothes Wringer, \$10.00, GRAPE CULTURIST, \$2.00, American Entomologist, \$1.00—\$13. Awarded to Bluffton Wine Company, St. Louis, Mo.

No entries for second and third premiums.

BEST WHITE WINE OF ANY VARIETY.

One Wine Cask, \$15.00, GRAPE CULTURIST, \$2.00, Rural World, \$2.00, Journal of Agriculture, \$2.00, American Entomologist, \$1.00—\$22.00, and

all the fees. Awarded to Bluffton Wine Company, St. Louis, Mo., on Taylor, competing with a new seedling, several samples each of Delaware, Herbemont, Catawba. and one sample of Diana.

BEST WINES OF MIXED VARIETIES, RED OR WHITE.

Premium—One Plow, \$15.00, and all the fees. Awarded to John Bauer, Nauvoo, Ill.

SPARKLING CATAWBA

First Premium—One Wine Cask, \$15.00, cash, \$5.00—\$20.00. Awarded to E. A. Thompson, Cincinnati Ohio. No other entries.

BEST COLLECTION OF WINES BY ONE EXHIBITOR.

Premium—A fine silver plated Wine Castor, \$35.00. Awarded to Bluffton Wine Company, St. Louis, on a collection of twenty varieties, comprising Concord, Norton's, Cynthiana, Ives, Clinton, Devereaux, Missouri Port, mixed of Norton's and Concord, Hartford Prolific, Creveling, Cunningham, Catawba, Delaware, Herbemont, Maxatawney and Martha mixed, Rulander, Taylor, and Rogers Hybrids Goethe (No. 1), Wilder (No. 4), and Lindley (No. 9); all good wines, and graded highly by the committees.

Various interesting discussions were held, about the best methods of pruning, planting, preparing the soil, wine making, etc., which we would gladly notice more extensively, did our space permit.

Among the visitors, we had the pleasure of making the acquaintance of Mr. D. C. Richmond, of Sandusky, Ohio, a zealous and experienced grape culturist and wine connoisseur, who

has traveled all over Germany, France and Italy, and is now largely engaged in grape growing and wine making near Sandusky. He expressed his astonishment and delight at the splendid collection of wines brought together here, of over one hundred and twenty samples, and his firm belief that the wines exhibited could compete successfully with any wines of the old world.

It was resolved that the next meeting of the Society should be held in St. Louis, at such a time in September as the Executive Committee may

designate, and that the propriety of making a premium list for grapes, and holding an exhibition of grapes and wine, together with the State Horticultural Society of Missouri.

After the passage of a resolution of thanks to the citizens of Alton for their kind reception and genial hospitality, and also to the different railroads and steamboat lines, for deduction in fare, the meeting adjourned, and, we believe, left the impression upon the mind of every participator that he had spent his time pleasantly and profitably.

NOTES ON GRAPES FOR 1868.

(Concluded.)

MARTHA.—This grape seems destined to supply a want long felt, of a truly popular white variety, suited to the general wants of the people, and adapted to a great variety of soils and localities. A seedling from the Concord, with a vine equally hardy, healthy, and vigorous, it needs nothing in that respect to recommend it to universal favor. In quality, as a fruit, it is, I believe, uniformly conceded to be more refined and delicate, and a decided improvement upon the Concord; and as it ripens earlier, and has shown no indications of rot or mildew, may be fairly claimed to hold the same, or higher position among our white native grapes than the Concord occupies among black ones. The past season, during very rainy and unfavorable weather at the ripening season, Concords cracked badly, while the Martha remained perfect.

In bunch and berry, the Martha is less than the Concord, but improves each year, as the vines get older. The past season gave bunches, on vines in their second and third year's bearing, four and a half inches long; and the largest berries three-fourths of an inch in diameter. It will also be found valuable for white wine, as it yields a juice, or must, ten degrees higher than Concord.

MILES.—A vigorous growing, healthy vine, of the type of the Hartford; bearing a black grape of medium size, both in bunch and berry. It is very early in ripening—some days before the Hartford; and is of better quality. In flavor sprightly, sweet and vinous. Not much disseminated, but worthy of trial, as it will probably be found useful both for the table and for wine.

MAXATAWNEY.—A fine white variety.

Vine vigorous, hardy, and healthy. Rather late in ripening for this locality, but a very pleasant and handsome table grape when fully ripened. Highly esteemed in Southern Illinois and Missouri.

MOTTLED.—A seedling from the Catawba, which has proven less disposed to rot and mildew than its parent, and ripens about ten days to two weeks earlier. The vine is scarcely as strong a grower as the Catawba, but is vigorous, with abundant foliage, and compact, short-jointed wood. Bunches medium to large, compact, often shouldered; berries full medium size; color like the Catawba, mottled with darker shades in coloring. Flavor brisk and sprightly; textures somewhat pulpy, and too acid and astringent at the center for a fine table grape. It is very productive, and has produced some fine samples of wine, for which it is esteemed valuable.

NORTON'S VIRGINIA—Has not been extensively tested in this region. The vines, however, when once established, seem hardy and healthy, and make a fine, vigorous growth. Rather tardy in coming into bearing; and bears sparingly on young vines.

REBECCA.—This variety has not seemed to make much progress in popular estimation, though it has been many years introduced. It is one of our finest white grapes, but unfortunately is rather tender in winter; in many localities subject to mildew; and, except in rather mild and sheltered positions, of weak growth, deficient foliage, and withal unproductive. In open exposures, on trellis, rarely ripens well; but upon south walls and similar positions, I have seen it in quality equal

to our best native varieties. Suited only to amateur culture.

RENTZ.—A Cincinnati seedling. A large, rather coarse black grape, of vigorous growth of vine and healthy foliage. Claimed to have some value for wine; and may prove useful for this purpose. Too pulpy for a table grape, but is early, and of fair flavor.

ROGERS' HYBRIDS—The limits of a magazine article will hardly allow an extended description of the forty or more numbers raised by Mr. Rogers; but they are really worthy of notice, and I have no doubt many of them will yet be grown extensively, and recognized as varieties of standard value. Those that I have personally tested which have proven the best are Nos. 1, 3, 4, 5, 9, 15, 19, 28, 30 and 33. Of these, No. 1, though large and handsome, is the latest in ripening, and does not always mature. Nos. 3, 5, 9, and 33 are the earliest. The rest of those above named ripen nearly together, about with the Concord or a little later. They are all of vigorous, strong growth, and generally healthy and productive.

SALEM.—This is also one of Mr. Rogers' Hybrids, stated by him to be the "best of all his collection." It is a vigorous vine, and fruit which has been exhibited to me has certainly been very handsome, and of fine quality. I do not feel quite certain that it will prove superior to some others of Mr. Rogers' seedlings, but it is well worthy of extended trial, and will probably prove valuable for wine, besides being a very attractive and excellent table grape. Bunches and berries very large, compact, color much like Catawba; pulp tender and melting; flavor sweet, rich

and sprightly, with a peculiar aromatic flavor, suggestive of slight foxiness. A desirable variety.

SHAKER, OR UNION VILLAGE.—One of the largest American grapes, both in bunch and berry; and one of the strongest growing vines. It is also very productive, in this respect resembling the Isabella, from which it is said to be a seedling. In quality and flavor it is also much like the Isabella; but the bunches and berries are of the size of Black Hamburgs. Requires protection in severe winters.

UNDERHILL'S SEEDLING.—A comparatively new variety, which seems to have some merit, and may prove valua-

ble. The vine has proven perfectly hardy, healthy and productive. Fruit color of the Catawba; bunches and berries medium to large; pulp tender; flavor sweet, vinous, and, though a little "foxy," of higher character than the Hartford, Concord and grapes of that class. It also ripens early, and seems well adapted, by reason of its good qualities for extended trial.

There are some other varieties which I may hereafter notice, and may also give some account of my own experiments in raising hybrids and seedlings.

GEO. W. CAMPBELL.

DELAWARE, Ohio.

THE CHEMISTRY OF WINE.

BY CHAS. H. FRINGS.

(Continued.)

Flavoring matters, giving the wine its particular aroma, which however differs entirely from the bouquet, are to be found, in Germany, especially in the "Muscateller," "Riesling," etc. Sometimes these matters are also of very disagreeable smell, for instance, in the greatest part of the wild varieties of grapes in America.

Coloring matters are contained in the skin of the berries: the yellow remaining green in the white grapes through the action of the alcalies, and blue through the action of acid, changing into red in the blue and black grapes. These coloring matters are not soluble in water, but in alcohol. Therefore, it is necessary to ferment the skins together with the must to make high colored wine.

Carbonic acid may be contained in the juice of the grape in small quantities, because the grape develops carbonic acid during its growth. Brought in contact with air, the colored matter will oxidize and become brown. The skin of the berries contains wax as covering, and the seeds contain oil. Small parts of these will enter into the must by fermentation, in the common process of wine making, where they contribute especially to the bouquet, as we will see in the following.

When we come to consider the respective proportions of must, husks and stems, we will find that these also are variable in relation to the grape juice. On the average it may be calculated as follows: In 100 pounds grapes, 75 pounds must, 12 pounds

husks, and 13 pounds stems. By fermentation some per cent. of the must will evaporate.

More important than the quantitative changes are those in regard to quality.

By coming in contact with the air, and being thereby impregnated with fungi, the must will become cloudy, and a movement in it will take place. Carbonic acid will be developed, and announced with hissing noise after the consumption of its first portion by the fluid, and it appears on the surface of the must as a white scum, which shows different conditions, according to the differences in the fermenting fluid, or higher or lower temperature. The must will get an alcoholic smell and taste. At last the movement will cease. The fluid clears itself by depositing all its parts which are indissoluble.

In more or less time, all in proportion and according to the degrees of temperature, these appearances will take place, and, when the fluid is sufficiently warm, will be finished in a few days. Through this process, the whole or at least the greatest part of the sugar will be dissolved. In the first instance, the fermentation is *fully* finished; in the second, the same will slowly continue until the sugar is all destroyed.

The first part of fermentation, by which the greatest part of sugar is dissolved, we call "*the first*" or "*rapid fermentation*," and the second part is named "*after fermentation*," at which the alcohol in equal measure is increased.

The physical changes to which the

fluid is subjected are the following: The temperature rises, as above mentioned, several degrees over the original temperature of the must and that of the room in which the fermentation took place. This addition of temperature reaches a certain maximum, and is thereafter descending in the same manner as the fermentation is decreasing by successive cooling, but very much slower. The volume of the fluid is, as also already mentioned, somewhat reduced after fermentation. Its absolute weight decreases perpetually during the removal of the carbonic acid. The specific weight or the density of the fluid will be smaller during fermentation, because sugar is dissolved and alcohol has been formed.

The chemical changes to which the fluid is subjected are of a very different nature. The contents of the must are partially dissolved, partially changed, and also serve partially for the formation of quite new substances.

We will now consider these changes, but before doing so, first determine some chemical fundamental principles.

The ingredients of must are principally composed, like the whole vegetable world, of only three principal elements: Oxygen, Hydrogen, and Carbon, to which, in single parts, is adjoined Nitrogen. The stuff as such consist of numerous small parts, so small that they cannot be divided with the aid of the finest instruments and the best manipulation, and are therefore named "*Atoms*."*

* Many modern chemists have, with great acuteness, endeavored to put something else in the place of "Atoms." But the "teaching of Atoms" will be the easiest to be understood by the novice, and is fully sufficient for our objects.

NAMING THE ROGERS HYBRIDS.

In response to the request of the committee of the Lake Shore Grape Growers' Association, Mr. E. S. Rogers of Salem, Mass., has consented to give names to the leading varieties of his hybrid grapes, in place of the numbers by which they have hitherto been designated. He proposes the following, with the remark that the English and German names are of persons who have been eminent either in the botanical or horticultural world, or for scientific or literary attainments, and to whose works he feels much indebted; and the Indian names are those of counties and towns in Massachusetts:

For No. 1, Goethe; No. 3, Massasoit; No. 4, Wilder; No. 9, Lindley; No. 14, Gärtner; No. 15, Agawam; No. 19, Merrimack; No. 20, Requa; No. 41, Essex; No. 43, Barry; No. 44, Herbert.

M. B. BATEHAM,

Secretary L. S. G. G. Association.

[We are glad to see that at last Mr.

Rogers has done something to clear up the confusion which existed in regard to his truly valuable hybrids. Whatever may have been the reason for sending them out with only numbers attached to them—whether modesty, distrust of their merits, or any other reason—certain it is that many mistakes have been made, which it will take a good deal of labor to correct, for the only reason that simple numbers will not convey the same pregnant meaning as a name. We have long been convinced that many of them *deserve* a name, much more, indeed, than hundreds which have been named and excessively lauded, and that the grape growers of the country should be justly grateful to him for their origin. But why have not Nos. 2 and 8 also received names? We think they are worthy of them, at least to us here “out West,” especially for wine making purposes.]—Ed.

THE GRAPE VINE FIDIA—*Fidia viticida*, Walsh.

(Coleoptera, Chrysomelidæ.)



One of the worst foes to the grape vine that we have in Missouri is the Grape-vine Fidia, which is represented in the annexed Figure. It is of a chestnut-

brown color, and is densely covered with short and dense whitish hairs which give it a hoary appearance. I have found it very thick in most of the vineyards which I have visited,

and it is almost universally miscalled the “Rose-bug,” which is, however, a very different insect.

The Grape-vine Fidia was first described by Mr. Walsh in the May, 1867 number of the *Practical Entomologist*. It is found in the woods on the wild grape-vine and also on the leaves of the *Cercis Canadensis*; but of the tame vines it seems to prefer the Norton's Virginia and Concord. It makes its appearance during the month of June

and by the end of July has generally disappeared, from which fact we may infer that there is but one brood each year. The manner in which it injures the vine is by cutting straight elongated holes of about $\frac{1}{2}$ inch in diameter in the leaves, and when numerous it so riddles the leaves as to reduce them to mere shreds. The preparatory stages of this beetle are not yet known.

REMEDIES.—Luckily this beetle has the same precautionary habit of dropping to the ground, upon the slightest disturbance, as has the Plum curculio, and this habit enables us readily to

keep it in check. The most efficient way of doing this is by the aid of chickens. Mr. Poeschell, of Hermann, on whose vines this beetle had been exceedingly numerous, raised a large brood of chickens in 1867, and had them so well trained that all he had to do was to start them in the vineyard with a boy in front to shake the vines, and he himself behind the chicks. They picked up every beetle that fell to the ground, and in this manner he kept his vines so clean that he could scarcely find a single beetle in 1868.—*Professor Riley's Entomological Report.*

EDITORS' LETTER BOX.

WASHINGTON, ARK., March 7, 1869.

Geo. Husmann, Esq. : Allow me to congratulate you and your associates upon the successful launching of the *GRAPE CULTURIST*. It is a proud distinction for Missouri to have established first in America a journal devoted exclusively to this fascinating branch of industry, which already begins to play an important part in the development of the gigantic resources of our country. The *GRAPE CULTURIST* will make an excellent focus for concentrating all the lights of experience upon the subject. In such hands as it is, its success is a foregone conclusion.

I have traveled so little of late years, that I do not know whether or not my plan for sustaining the tension of wires on the end posts of trellises has been used by others. I contribute it to the common fund, for the benefit of those cursed with trouble from loose and swaying wires.

Five or six feet beyond each end post, on the outside, in the line of the trellis, I bury, about two feet deep, in a horizontal position, a block of hard wood, some two feet in length. To the block a piece of old chain is securely attached in any firm manner. The earth is packed over the block, leaving a few links of the chain extending out above the surface toward the top of the post. To this it is securely attached by a stout wire, passing through an auger hole near the top. This is drawn as tightly at each end post as they will allow without being drawn materially outwards, and securely fastened. The trellis wires may then be stretched to any desirable degree of tension. The resistance is perfectly dead and solid, even in the lightest, sandy soil. I find this preferable to wooden braces inside the posts, being cheaper, more effective and neater. The idea is taken from

the anchorage of wires in suspension bridges, except that the wires are in this case separate, and have their separate fastening. If the wires are passed from the blocks over the tops of the posts, or through auger holes, to form the trellis, they tend to press the posts inwards and slacken the wires, especially in sandy soils. The piece of chain extending a few inches above ground, is less liable than wire to injury by accident.

If there be any objection to this plan, it is in the unyielding nature of the fastenings. I have drawn them very tightly, however, without having the wires to snap from subsequent cold.

For gardens and small plats a prettier trellis is made with small posts, light and close together, sustained at the top by a single lath, about two and a half by three-fourths inches. If the posts are not more than six feet apart, wires may be drawn very tightly without bringing the posts together. One gets rid of the awkwardness of the bracing wires in obstructing walks, which, in vineyards, is a matter of less importance.

Query. Are tight wires desirable, after all, in grape trellises? They look better, but I am inclined to think my vines more liable to be rubbed and bruised in storms, upon tight wires, than when they have a slight swaying motion. The latter is also analogous to the natural support of vines on the swaying branches of trees. What is the experience of others in this matter?

Respectfully,

JNO. R. EURLN.

[Thanks for your contribution. We

have for some time kept our trellis in a very firm condition, by bracing the end posts with a piece of rail against a peg driven into the ground not far from the second post, and leaning against the end post, in a notch made just below the upper wire. We stretch the wire by boring a hole through the end post through which the wire passes, take a piece of wood, say one and a half inches square and nine inches long, through which a hole is bored, and the end of the wire drawn. By simply turning this piece of wood the wire can be stretched very tight, and released again in the fall.

We do not think that vines are any more liable to rub and chafe on tight wires than on slack ones, nor will it do them any injury if they rub a little.

Let us hear from you frequently, as we know you to be one of the earnest workers in the cause, and firmly believe that Arkansas will yet rival Missouri in grape growing.]—ED.

EDGEWOOD, ILL., March 4, 1863.

Dear Sir: I have inclosed \$1 for the GRAPE CULTURIST for six months. You can put me down as a life member. It is a thing that I have been looking for this long time. I have been going it blind ever since I got those grape vines of you. They have done finely beyond all expectations. I have now three thousand from them. Since that time I bought your grape book, and have received some valuable instructions from it. But I can keep it in the house but a short time; all the neighborhood has it. We want to start a

wine company here soon, if we can induce the people to raise the grape.

Respectfully yours,

E. A. HEGEMAN.

P. S.—I wish some day you would tell us through your valuable journal how to prune and set your grape vines, different kinds, and the distance apart.

E. A. H.

[You will find instructions how to plant in the March number, in "Work for the Month." We plant all the most rampant growing varieties—Concord, Herbemont, Hartford, Ives, Cunningham, Clinton, Taylor, N. Carolina Seedling, Rogers No. 1 (Gæthe)—ten feet apart in the rows; the Norton, Cynthiana, Rulander, Louisiana, etc., eight feet apart; the Delaware, Catawba, Cassady, Creveling, Alvey, and other slow growers, six feet apart. The rows we make six feet apart for *all* the varieties.

Any information which our readers may want and we are able to give, let them ask for it, and they will meet with a prompt response in the "Letter Box."—Ed.

BROCTON, CHAUTAUQUE CO. N. Y.,
March, 23, 1869.

Dear Sir: It would be a great assistance to young grape growers if you would give them the benefit of your experience in regard to the best and cheapest material for tying vines. What are the merits of the willow in this respect? and if you think well of it, what is the best method of cultivating it for the purpose?

Yours truly,

LOHPHANT.

[The best material for tying vines in

spring, are the small twigs of the willow, and of all the varieties we know, the Golden Willow (*Salix Aurea*) is the best, as it will make an abundance of small, very flexible branches. It will grow on almost any good soil. Make cuttings of the larger branches in March or February, and plant perpendicular, leaving one or two eyes above the ground, in rows four feet apart, and a foot apart in the rows. These may be cut back close to the crown every winter, leaving a few eyes of the young growth. Cut in bad weather in the house and tie in convenient bundles, to carry in a belt or rag when tying; the bundles may be made one or two inches thick. They make the easiest and most durable ties, twisted in a so-called "gardeners knot." For tying of the young shoots in summer, pawpaw bark or rye straw is the most convenient material. They should be tied very loosely, to keep them from chafing against the wires, and to give the young cane and the foliage ample space and air.]—Ed.

F. Will, Hopewell Furnace, Washington County Mo.—The best press for a crop not exceeding six thousand gallons of wine, is the Belleville Press, of Geiss & Broseus, Belleville, Ill. We have used it for five years, to our entire satisfaction, and have found no other yet, which so well combines durability and simplicity with easy operation, and at the same time presses so thoroughly quick and dry. Four men can carry it easily, and put it up anywhere. The price, as near as we know, is \$45.00. The mill accompanying it, and which is an excellent apparatus for cider and wine making, costs the same; but each can be purchased separately.—Ed.

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THE GRAPE CULTURIST.

VOL. I.

JUNE, 1869.

No. 6.



STUDLEY & CO.
ST. LOUIS

THE NORTH CAROLINA SEEDLING [See next page.]

THE NORTH CAROLINA SEEDLING

Originated with that veteran pomologist and grape grower, J. B. Garber, of Columbia, Pa. It is a *Labrusca* in all its habits, leaf, growth, and fruit belonging to the *Isabella* type.

Bunch medium to large, generally shouldered, moderately compact. Berry large, oval, black, with slight blue bloom; pulpy, but sweet and good, skin thick.

Vine an enormous grower, hardy, healthy, and very productive; requires long pruning and "plenty to do." The fruit ripens a few days after Hartford Prolific, and as it is showy

and of very fair quality, it would be a good grape for early market. It hangs well to the bunch, and although coloring early and very uniform, will keep well, and carry to market in good condition.

It will also make a good Muscatell wine, if "gallized" about one half, and taking into account its hardiness, fair quality, productiveness, and adaptability for different soils, we think it will become one of the grapes "for the million" which everybody can grow and enjoy; one of the *cosmopolitan* class.

THE VINEYARD.

WORK FOR THE MONTH.

June is, with us here, ominently the *growing* month, and the vintner will have a busy time of it, a time which is especially trying to slug-gards.

Keep the young shoots of your vines well tied to the trolis, but tie loosely, so as not to cramp the young growth and crowd the foliage. Tie always so as not to interfere with the fruit bearing branches. This will also be the time to pinch the ends of the young canes, as described in the article on "summer pruning" in May number. The third and last stage of summer pruning will be treated in a separate article.

Keep your vineyards clean, plow and hoe frequently during *dry* weather, it is the best mulch and manure you

can give your vines. Look after your grape grafts, keep them free from suckers, and well mulched with sawdust or spent tan. As soon as the graft starts into vigorous growth, keep it tied well so that the winds cannot blow or break it off. Attend to the cutting beds, keep them clean and mellow with plow, hoe, and weeding fork. Clean and mellow soil is a requisite for success in growing any plant, but especially for the grape vine.

Stir the ground about your spring layers, taking care, however, not to disturb the young rootlets which will be forming about this time. This will be the time for *summer layering*, which need not be attempted, however, where the vines are large enough to shade

the ground. It can only be successful the first and second year after planting. For this purpose, the leading cane for layering should be left loose and trailing on the ground, and when it has grown to the desired length, pinch off the leader, so as to push the laterals into more vigorous growth. Make the ground loose and mellow, and cover the leading shoot to the depth of about one inch with mellow soil. The laterals will then take root and make good plants.

We know that summer layers have been condemned by many as worthless plants, and no doubt there are

many such; but where they have air and light enough we have had them make roots of three feet long, firm and solid, and we would as soon plant a vineyard with such layers as with the best spring layers. It matters not *how* a plant has been grown; if it has an abundance of firm, well ripened roots, it will grow and flourish. We would certainly rather have a good summer layer than a poor spring layer.

The operations of this month are mostly a continuation of the work in May, and thus but little more can be said about them.

THE CHEMISTRY OF WINE.

BY CHAS. H. FRINGS.

(Continued.)

Only to the greater or smaller number, and the position of the atoms of every fundamental ingredient in plants, can we ascribe the difference in appearance, taste and flavor. They may be bodies of the same chemical composition, and yet be entirely different. The cause of this difference can only be found in the grouping of the atoms. But this grouping can be changed in a multitude of ways, and by different means, even by mechanical process, and the result will be an entirely different product.

"What is the reason, sir," Napoleon once asked the celebrated naturalist Laplace, "that a glass of water, into which I drop a *lump* of sugar, tastes much sweeter than if I add the same

quantity of *pulverized* sugar?" "Sire," replied the philosophical senator, "we know three different products of the same chemical composition — sugar, starch, and gum. Why they are nevertheless different in appearance and taste, nature has not yet disclosed to us. It is barely possible that part of the sugar is changed into gum by the process of crushing." Later experiments have really verified the truth of this remark.

If therefore a simple *mechanical* process can thus change the grouping of atoms, it would seem natural that a *chemical* change would have a still greater effect.

Grape sugar, as contained in the must, is composed of equal atoms of

carbon, hydrogen, and oxygen. By their influence during fermentation, the lees destroy the grouping of these atoms, and develop two entirely new ingredients, carbonic acid and alcohol, which, taken together, contain the same atoms which the sugar contained before decomposition. Besides these the influence of the lees also develops, in very small proportion, however, glycerin, electric acid, and stearic acid, so that 100 parts of sugar have been changed by fermentation to about 47 parts carbonic acid, 50 parts alcohol, 3 parts glycerin, electric acid, and stearic acid. Of these ingredients the carbonic acid nearly all evaporates during fermentation, while the greater part of the alcohol remains. It will be nearly correct, if we calculate that a must which contains 20 per cent. of sugar will contain 10 per cent. of alcohol after complete fermentation.

Glycerin, which remains after fermentation, is that ingredient in wine which gives it that full and smooth taste, which German wine connoisseurs call "schmalzig." As glycerin, although not subject to change by fermentation, is yet slightly changed by the action of the acids upon it, wine will gradually lose that fullness of which it is the cause, and become harder by age. The acids which the wine contains will, during fermentation, combine with the alcohol, and by their action upon it produce those ethereal qualities which we call *bouquet*. To make the definition of flavor or aroma and *bouquet* clear to our readers, we will give this subject, which is of great importance in wine making, a little closer attention.

The flavors or odoriferous qualities

of wine we shall divide into *general* and *peculiar* flavors. *General* flavors are those which impart that smell to a spirituous liquid which will make it appear as *wine*. *Peculiar* flavors are divided into several groups :

1. Those flavors which were already present in the must before fermentation, and which are peculiar to certain varieties of grapes and fruits from which the wine has been made.

2. Those which are developed during fermentation, and which smell different from the flavor of the fruit.

Those flavors which have their origin in the fruit constitute the nature of the so called *aromatic* wines ; the flavors which are developed during fermentation, the nature of those which we call *bouquet wines*.

A NEW DISEASE OF THE VINE has made its appearance in France, about which the *France* reports as follows :

"In the Arrondissement of Orange one-third of the vines are already ruined ; of 10,000 hectares of vines which this Arrondissement contains, 3,600 are entirely dead. The disease does not prevail to such an extent in other parts of this region, but nevertheless, is bad enough. Sarrians has hardly a healthy vine left ; Roquemaure has lost at least one-half. The disease seems to spread every day, and has not as yet abated in a single instance. It seems to follow the course of the river Rhone, and does not spread as fast into the provinces. It commenced in the neighborhood of Arles, and has so far extended over Pierrelatte, in the province of Drome. Moulimart seems to be threatened next. Its whole extent is so far about 100 kilometres. Although not every place is affected in this entire district, yet it appears in new places every day, from which it spreads rapidly. A kind of aphid, which attacks the roots of the vines, is considered the cause of it."

SUMMER PRUNING THE VINE—NO. 3.

After the second pinching of the fruit-bearing branches, as described in our former articles, the laterals will generally start once more, and we pinch the young growth again to one leaf, thus giving each lateral two well developed leaves. The whole course should be completed about the middle of June here, and whatever grows afterwards may be left, unless some of the laterals should still become too long and hang over into the row, when they may be taken off or shortened in.

In closing, let us glance once more at the *objects* we have in view, and whether they are really reached by the practice as followed by us.

1. One of its principal objects is to keep the vine within proper bounds, so that it is at all times under the control of the vintner, *without weakening its constitution by robbing it of a great amount of foliage.* This we trust our readers will find is fully reached by early and thorough pinching, as the fruit-bearing branches become stocky, better able to bear up their fruits, and the tendrils cannot intertwine every thing.

2. *Judicious thinning of the fruit.*—This is done most thoroughly, and at a time when no vigor has been expended in its development.

3. *Developing strong, healthy foliage.*—This object we gain by forcing the growth of the laterals, and thus having two young healthy leaves opposite each bunch, which will shade the fruit and serve as conductors of sap to the fruit.

4. *Growing vigorous canes for next years' fruiting.*—We obtain just as many as we want, *and no more*, thereby making them stronger; and as every part of the vine is thus accessible to light and air, the wood will ripen better and more uniform.

5. *Destruction of noxious insects.*—As the vintner has to look over each shoot of the vine, this is done more thoroughly and systematically than by any other process.

There now you have *our* method, kind readers of the CULTURIST. If you can suggest improvements, please let us have them, for we hope to learn a good deal ourselves in our intercourse with you, and hope you will each contribute your mite of knowledge to the common fund, with that true liberality which we cannot help but think should guide every one who follows our noble profession.

FAREWELL TO HERMANN.—While writing this our trunks are packed, our household chattels gathered, for a "move" to Bluffton. To the many friends we leave here, with whom we have labored *earnestly* at least, if not *always well*, we take this opportunity of bidding a kind farewell, with the assurance that they will always find the "latch string hung out, and warm greeting, should they visit us at Bluffton." Thanks for all the kindness we have so often experienced; thanks even for all *honest* opposition we found. We may not have been right always—no one is; and we trust we can always bear to hear the truth, which it is our earnest desire to assist to spread. We shall hold all their favors in grateful remembrance.

Friends and correspondents from abroad will please direct their letters, etc., to Bluffton, Montgomery Co., Mo., where we hope to see them often, and their faces will be always a welcome sight. Morrison Station, on the Pacific R. R., is within two miles of Bluffton, and passengers can reach it in five hours on the morning train from St. Louis. We hope to be able to show them there that *walso* "practice what we preach."

GEORGE HUSMANN.

HERMANN, Mo., May 24, 1869.

BARNESVILLE, MO., April 30, 1869.

MR. GEORGE HUSMANN:

Dear Sir:—The Martha grape vine arrived on the 12th in good order, for which please accept my thanks. (It was twelve days on the road.) I shall accept your offer to test my seedlings when I ascertain which is best of them, or whether any of them are of real value. About fifty vines that promise well will bear this season.

My earliest grape that has produced fruit enough to judge from is all that I could wish it to be, with one fault: the skin is as tender as the skin of the Concord.

My White Concord only bore three berries last season, which were as large as average Concords, and very sweet when gathered. I was not thinking of or expecting to raise a white grape, but was watching all fall for it to color; so I began to think it would be a very late grape, or would not ripen at all, when one day, after Concord were fully ripe, I was out examining and tasting my seedlings, I noticed it looked very white for a green grape, and pulled and tasted a berry, when to my astonishment it was ripe and good. If it proves to be productive it will be, I think, a real acquisition. From present appearances it will set very full this spring. The vine is fully as thrifty a grower as Concord, and very much like it in leaf and general habit.

Another of my seedlings that ripened before Hartford, and same age as preceding (fourth summer's growth), bore two small bunches, with berries larger than the early one spoken of above, of very fine quality, and skin not so tender, but does not indicate

so great productiveness, as the one set thirty or forty good sized bunches, and the other only two small ones. My White Clinton seedling will be quite full this season, and I can begin to form an opinion of its productiveness. It can only be valuable as a white wine grape. Several grape men tasted it and pronounced it, or said they thought it would be, superior in quality to even the Delaware. It is all juice, seeds, and skin; no pulp.

My large grape ripens as late as Concord, a very large berry with one and two, but seldom three very small seeds, bunch large and compact, vine very vigorous and hardy, and wonderfully productive, but no better in quality than Isabella. One of the bunches had a leaf growing in it; another bud produced two distinct bunches.

I must now beg your pardon for troubling you to read so much about "my seedlings." I am with them like mothers are with their babies, I never tire telling of their virtues.

My Hartfords, Concords, Catawbas, Virginia Seedlings, Cynthianas, Delawares, and many other varieties, have stood the winter unprotected and unharmed; but Creveling, Cassady, Clara, and a few others are more or less injured. The good quality of the Creveling is its only merit; with me it is a weak growing vine, tender, and not very productive.

Bloods Black has a very tough skin, and overbears, or at least has that tendency. I planted twenty-five single eye plants of Ives' seedling last spring that made a fine growth during the season, but I neglected to earth up around them, so the frost

heaved out and killed them. I planted one acre more of them this spring, on the strength of the Longworth premium awards. I am not planting any more Hartfords, as I think their day as an early market grape is past.

I have five acres of Concord, which will feed and make cheerful the multitude. I want an early market grape of better quality than Hartford, and a late grape that keeps and ships better than Concord. As a family table grape the Concord is good enough.

I am planting the Norton and Cynthiana for wine, but could suggest improvements to them. I shall give Ives' seedling a fair trial and be governed by results.

I have fifty pear trees bearing, that are as healthy and productive as apple trees. I am preparing to plant another orchard of two hundred trees with about twenty varieties, the number of each variety according to its market value as proven on my own bearing trees. The prospect for a fruit crop of every kind, except peaches, was never better. Peaches are nearly a failure.

I have shown your Periodical to every grape grower I have met; all are pleased with it, and I hope many will subscribe for it.

Truly yours,

O. P. MORAN.

[Thanks for your interesting communication; we would like to give all of the seedlings you describe a trial. You should be careful, however, not to let them bear too much when young. You may kill the vines or fatally injure them, and the fruit will not be as perfect and good. With us, the Creveling is a fair grower and hardy, and even excessively productive. It wants rich, sandy soil, however.

We would advise you to try the Telegraph as an *early* market fruit. It is much better than Hartford, and will also ship better. For *late* market grapes you should try Goethe (Rogers No. 1) and No. 8. They bear handsome bunches and berries, keep well and are very productive. Massasoit (No. 3), Wilder (No. 4) and Lindley (No. 9) we consider indispensable for market and for wine.]—Ed.

SEEDLING GRAPE VINES.

As this is the time to be on the lookout for seedlings springing up, this communication may be in time to induce some to take up these delicate little plants if they may have sprang from any variety of merit; plant them carefully, and tend them until they come into bearing. Should they not prove worthy of cultivation, the stocks for grafting will

be worth the trouble of raising them. And then supposing you get a new one of value, such as Martha, Creveling, Maxatawny, etc., what a treasure you will have! That we have too many varieties already may be true; but what of that? Suppose we can get better ones, can we not then afford to discard some of the old ones?

If every grape grower would plant seeds of the best varieties, even but a few of each, how soon might we expect to surpass the already valuable varieties!

Although on the down-hill side of life, I have no idea of abandoning this experiment, even though no new life lease be guaranteed me.

If some of those who think it too much trouble could realize the pleasure I experience now, when looking at my Arnold's hybrid seedlings, and the anxiety with which the Martha seed are looked for to come out of the ground, they would consider it a pleasant duty.

Here is one thing that I beg and pray for, and do not think it is asking too much from my horticultural brethren who have the facility to do so. It is to cross the Martha with one of the large bunched foreign varieties, such as Bowood Muscat, White Nice, or Muscat of Alexandria. Seedlings from these

must certainly produce something valuable.

If any one will do this, and send me next fall a few berries thus crossed, I will promise (if spared a few years longer) to show something handsome therefrom.

Having no cold grapery, I can not do it myself. When leaving the East, a small batch of seedlings from the Martha, crossed with the Bowood Muscat, and from which I thought there would be something valuable, were carefully packed and sent along with other varieties; but by one of those unaccountable accidents that sometimes occur, they were lost.

Hoping that this communication may be the cause of some valuable acquisition to our list of grapes in a few years hence,

I am truly yours,

S. MILLER.

BLUFFTON, Mo., May 15, 1869.

GRAPE CULTURE.

At the regular monthly meeting of the Northeast Missouri Horticultural Society, held in Hannibal on the 24th ult., an essay was read by Mr. A. E. Trabue, and published in the *Hannibal Courier*, from which we make an extract:

* * * In the first place, then, don't send for a Dutchman; don't give him \$250 nor \$450 to turn your ground upside down with the spade; don't forage the land for all the old boots, bones, hats, hair, horns, hides, old cats, dead rats, Grecian bends; don't cover your land with greenbacks. These things are well enough, but it will not pay.

First, then, see if your soil is dry. If not it must be made dry, either by blind or open drains. Then is it rich enough to raise fifty bushels of corn to the acre? If so, it is rich enough for nine-tenths of our native grapes. Thus being assured that you have the proper soil, you will get two or three good strong horses, and turn the soil over as deep as they can do it; let another team follow behind them with another plow, with its mold board removed, which will follow in the track of the foremost plow, and thus lift and loosen, but not throw out or invert the subsoil. If you have not two teams, the foremost

team must be stopped at every round and hitched to the hindmost plow, and vice versa. I think it indispensable that the subsoil be loosened in some way, to properly plant a vineyard, but never thrown on top; and this is the cheapest way to do it that I know of. Some three or four years ago I thus broke up about ten acres, at a cost of about fifteen dollars an acre; in order to break sixteen inches, I found three big mules were necessary for the foremost team, and six oxen for the Mape's subsoiler that followed it. We thus thoroughly broke something over half an acre a day.

This work should be done in the fall. Next spring, as soon as the soil becomes friable, it should be harrowed smooth, and rows marked out with a two horse plow eight feet apart, and then rows diagonally across eight feet apart, with the same implement. Two horses are better than one, because the guide stakes are more directly in view between the horses, and a straighter furrow can be run, whereas one horse would be directly in the way and obstruct the view; besides, the larger furrow we can turn the better. It saves digging. Thus we have the rows checked off eight feet apart, and the holes almost dug for us with the plow. There is but little work then for the shovel to clean out the hole, leaving a small mound in the center, around which to spread the roots of the vine, and the work is done. I think three inches is deep enough for the collar of the vine, and the roots spread at an angle with the horizon of some twenty or thirty degrees.

It is not near so well to break the

ground for vines in the spring. My experience would indicate that vines planted in fall broken soil will make one hundred per cent. better growth.

The selection of varieties to plant is next in order, and about this, opinions are widely at variance. My opinion of the matter may be known from the fact that out of eight or ten thousand planted, three-fifths are Concord, one-fifth Ives, and the balance Norton's Virginia, Cynthiana, Martha, Hartford Prolific, Delaware, and some twenty or thirty other varieties for trial.

Good layers are, by long odds, the best to plant, one-eyed plants; and those from cuttings, are simply ridiculous in comparison. Plants from good layers have made twice the growth, and borne twice the fruit that plants propagated by any other process have done. My best success from cuttings has been achieved by throwing up a bed twelve inches high and two and one-half feet wide, sticking the cuttings therein while still dormant, butts down, and sinking them in the soil to a level with the top eye. Plank on each side sustains the bed, and extends six inches above it. Across the top common domestic is stretched, and allowed to remain until the latter part of August, when, removing the domestic, the cuttings will be found well grown. All the rain that falls filters through the cloth; as much sunshine gets through as the tender plants require, yet not enough to scorch them, and by reason of the bed being raised above the surrounding surface, warm air has a chance to penetrate to the base of each cutting, and stimulate the production of roots.

There's never any trouble about the

leaf buds pushing. I've never seen a live cutting fail to push its leaves. The trouble is, the leaf is certain, unless carefully treated, to push forth and flourish on the nutriment stored in each bud, and then die before roots are present to sustain them.

A good cheap plan is to stick cuttings of two or three eyes in common soil and lay strips of plank over the top, sustained at intervals by brick set on edge. The cuttings thus get the morning and evening sun, and are shaded from the midday heat. The plank should be removed at night, and before each rain, in order that the embryo plants may get all the moisture possible. I've never succeeded to any extent by simply mulching with straw without other accessories.

Any one having a bearing vineyard yet unpruned, should now prune. It will not bleed to hurt, and it is perhaps better done now than in the fall; because I find a majority of the fruit buds on my Concord vines, that were pruned last fall, are now dead; the remaining stems died and dried into the fruit bud and killed that. The stems might have been cut too short, and this assisted the result, but aside from that, we should do nothing to weaken the constitution of any plant just at the moment when it is about to encounter the perils of a severe winter. This reflection stayed my hand when about to prune last fall, and I feel fully justified by the result.

How then shall those of us that have fruiting vines this spring prune them to produce the proper quantum of fruit? This is an important matter; and although a vine, whether pruned or un-

pruned, will certainly produce fruit, yet it will as certainly be more profitable if it is properly pruned. Feeling the importance of the point, I have consulted the three most prominent authorities on the vine in this country, to-wit: John Phin, Fuller and Husmann.

John Phin tells us to prune to two horizontal arms, and leave four buds to each arm for fruiting the fourth year; then cut each alternate shoot, on each arm, to a length of four feet, and the other four shoots to the lowest good bud.

Fuller tells us, oh, no! this will never do. The vine must be trained with two horizontal arms, it is true, but then six buds must be left to each arm, and then the shoots from these must be cut back all to two buds each, so that they will all break and grow off evenly, and none get the start of another. Neither should any of them be allowed to grow higher than the others, and thereby appropriate more than their own share of nutriment.

Well, Mr. Husmann, what do *you* say? Do you know anything about it? Oh, yes, says Husmann. It's all very well, Mr. Phin and Mr. Fuller, to talk your two arms. It looks mighty well on paper. But "paper is patient, and while it can not be denied that it has its advantages, if ever spur and shoot can be made to grow just as represented in your drawing, with three fine bunches to each shoot; yet upon trying it practically, we find that vines are stubborn things, and some shoots will outgrow others; and before we hardly know how, the whole beautiful system is out of order." And then he goes on

and tells us we must train our vines fan shape. If we prune too long, says Mr. Husmann, we overtax its energies. How much is too long, Mr. Husmann? If we prune too short we shall have worse things to befall us. How much is too short, Mr. Husmann? In short, according to Mr. Husmann, we must prune *judgmatically*—that's the whole up-shot of it. * * * *

But should any one wish to know my practice, I will say, I have not followed any special system of pruning, but I require vines that are three years planted to produce a growth nearly the size of the little finger. In the spring or fall all the knitting needle and spindling shoots are cut away, and the thrifty and robust cut back to five or six eyes, and I find good results from this, and but little trouble.

A. E. TRABUE.

[As friend Trabue quotes us in the above, we will look at his essay a little closer, only slightly review it, and as we do so, we find, or we *think* we find, that he, like the rest of us, does not yet know *everything*. He is quite right when he opposes trenching with the spade; but he is *not* right, in our humble opinion, when he speaks slightly of the "Dutchman," as he is pleased to call him, which means, we suppose, a *German*. The Germans may have many preconceived notions, they may follow, as a general thing, too much the practice of their fathers in the "Vaterland," but we venture to assert here, that American grape growing would never have been what it is to-day without the patient toil, perseverance and skill of the same "Dutchmen," of which friend Trabue thinks so

little. For perseverance and steady industry, for the small, unceasing labor which the culture of the grape requires, give us the German laborer; we would rather risk to have them cultivate our vineyards than the majority of Americans. There are, of course, exceptions to this rule; many of our German laborers do not *think* enough when they work, but we can safely assert that there are as intelligent grape growers to be found among them as can be found among Americans, far or near. It is not at all necessary, we think, to raise or argue the question of nationality; we think there are good grape growers to be found in all nations, or at least the stuff for them; but so far the majority of the thorough-going, practical and successful ones have been furnished by that same "Dutch nation," or German, of which our friend seems to think so little.

Our friend's ideas about preparing ground are very good. In 1861 we were the first to follow that practice near Hermann, and we should not be surprised if friend Trabue got the idea from a "Dutchman's" book. The vineyard thus prepared is yet one of the most flourishing about Hermann, although many predicted at that time that "it would never do."

His general ideas about planting are also good, but not quite explicit enough. How deep do you plant your roots, friend Trabue? According to our experience the lowest tier of roots should be about eight inches below the surface, in ordinary soil; in warm southern hillsides about a foot. The reasons for the difference in depth will be apparent to every one. But we must

differ with you decidedly about the value of layers or plants grown from single eyes or cuttings. You say the latter are simply ridiculous in comparison, but give no *reason* for that assertion. We have given our *reasons* elsewhere for preferring the latter, and we trust we have had as much experience and practice as friend Trabue. But if you grow your plants from cuttings by the sweating process you describe, keeping them shaded until August, it is not surprising that neither roots nor tops can be very good. Their constitution is enfeebled. You do not give them time enough to harden off. How then can you expect them to flourish well, if transplanted next fall or spring?

You advise pruning in April, and say "it will not hurt if the vines bleed." We contend it will. You may just as well contend that the loss of blood will not hurt you, if you cut off your hand. It will weaken the vine as much to bleed severely as it will a human being. There is so much vitality lost, which can not be replaced so very soon. Better prune somewhat longer in fall; you can regulate it by summer pruning should too many eyes start. Vines have never suffered with us if pruned in fall; nor will they with you, if you do it rightly and judiciously.

But then you come to pruning, and quote from three sources, which you are pleased to call authorities—Phin, Fuller, and Husmann. We are glad to be in such good company; but friend Trabue finds fault with us because we can not give him a fixed rule by which to prune. Were vines all alike, had they just so many canes each, of exactly the same strength and length, we

could give a rule. But, unfortunately, one vine grows strongly, the other but weakly; one variety produces better fruit on long canes, the other on spurs, and thus it would be downright folly and madness to prune one like the other. You have hit very close to it when you use the term "judgmatical:" therein lies the philosophy of pruning, that the vintner exercises his judgment. He must learn by practice and experiment, and a *little* thinking, *how, where* and *when* to prune, without rule or compass; he must know how heavy the load can be which the vine is able to bear, and yet produce wood enough, and retain vigor enough for next year.

But our friend is a good deal more indistinct in describing his practice. He says "he cuts the thrifty and robust shoots back to five or six eyes," yet he does not tell us how many of these he leaves on his vine. There may be two, or there may be twenty, for all we know. Will he not enlighten us about this in some way? It is *rather* material to those who wish to *understand* "his practice."

We shall be glad to hear from him, or any other members of our widespread brotherhood, about this. "More light" is what we want. Give us your experience, fellow vintners, and we can all learn from each other.]—Ed.

MISSOURI WINES.—Some weeks ago the Bluffin Wine Company received and filled an order of some forty cases, comprising an assortment of all their wines, from President Grant, who it seems, has found them very palatable. It shows that the sound judgment of the Chief Magistrate is not alone confined to the limits of war and politics. May they serve to lighten the cares of his high station; may he live long and gloriously as he has begun, and always have a glass of good native wine, good enough for anybody, to drink with his hosts of friends.

THE HERBEMONT GRAPE.

BY JOHN J. WERTH.

As far as my information goes, the following presents the most authentic history of this very valuable variety of our cultivated grapes :

Mr. Nicholas Herbemont, a native of France, but for many years a resident of Columbia, South Carolina, and an enterprising and enthusiastic amateur cultivator of the grape, wrote to the editor of the *Farmers' Register*, published in Richmond, Va., under date of Nov. 15th, 1834, as follows :

"You ask me, sir, what is the origin of the vine called the *Herbemont's Madeira*. I found it cultivated in this place (Columbia) when I first came to it. I had for a long time reasons to believe it a native vine; but Mr. Thomas McCall, of Georgia, to whom the culture of the vine is much indebted, assures me that he knows it to have been imported from France. Its vigorous growth and perfect acclimation, and my having received it from several different quarters as a native, seemed to warrant my supposition that it was a native, but I now have no doubt of its foreign origin."

During the next month, December, 1834, Mr. Herbemont wrote as follows :

"Since I wrote you last I have learned more concerning the origin of the vine called Herbemont's Madeira.

"It certainly has been received from France under the different names of *Muscat Gris*, *Pinéau*, and *Maurillon*; and also from Madeira, but under what name I am not informed. *It changes some of its characters so much in this country as scarcely to be known*

again, for here it grows to the size and with the vigor of our strongest native varieties. The truth is, that the nomenclature of the vine is in such a chaotic state that the labor of twenty Hercules would be required to clear it up."

This looks very nearly conclusive of its foreign origin; and yet I lean to the opinion that it is a true *Æstivalis* of our Southern forest. This opinion is not only fortified by the habits and manner of growth of the vine, and the structure of the leaf, but I have fallen in with strong evidence, here and there, since Mr. Herbemont's death, sustaining the native origin of this grape. H. W. Ravenel, Esq., eminent authority in the classification of Southern grapes, in his essay on grapes read before the "Aiken (S. C.) Vine-growing and Horticultural Association," Sept., 1859, classes the Herbemont (or Warren) along with the Lenoir, Pauline, Norton, and other well known varieties of that class, as an *Æstivalis*; and the editor of the *Farmer and Planter*, of South Carolina, in commenting on the fact, states that the late Major Guignard, of that State, repeatedly informed him that the Herbemont (then of course unnamed) was introduced into Columbia as early as 1798, and was propagated from a then old vine growing on the plantation recently owned by the late Judge Inger. Major Guignard knew nothing of the origin of the parent vine; but of its identity he was perfectly assured. Col. Martin, of Georgia, assured me in 1863 that

this grape, which he saw growing in my vineyard in this county, was known as the Warren in Georgia, having been found growing wild, many years ago, in the county of that name in that State. Mr. Berkman, of Georgia, another high authority, I feel confident also classes it as a native variety.

Upon the whole, I think the weight of testimony will justify the classification of this valuable wine and table grape as a member of the *Estivalis* family. Mr. Herbemont's identification of it as the Pineau, of France, is considerably weakened by the fact that this name is borne by several very dissimilar varieties of foreign grapes.

Mr. Herbemont made, for many years, a very superior wine from this grape, and reported in one season a yield at the rate of fifteen hundred gallons of pure juice per acre. My ob-

servation leads me to attribute to it a very fastidious if not a somewhat capricious taste as to soil and location. While an open, porous, calcareous soil is generally esteemed a condition of its success, I have found the most uniformly abundant, healthy and thoroughly ripened crop, for successive seasons, on a low, imperfectly drained, and rather compact soil; while myself and others, on light and well drained soils, gathered heavy crops of disappointment instead of grapes.

If I could have the same assurance of its escape from rot that the Concord furnishes, I should be tempted to devote my entire vineyard to its culture, so highly do I estimate its productiveness and other fine qualities, *where it feels perfectly at home*.

RICHMOND, Va., May 8, 1863.

CAUSES OF FAILURE IN GRAPE GROWING.

By ISIDOR BUSH.

II.—UNDERTAKING TOO MUCH AT ONCE.

"If one acre will net me so many dollars, ten acres will net me ten times as many dollars, and twenty-five acres even will yield a profit of twenty-five times as many dollars." This form of arithmetic has so deeply impressed itself upon our mind, that most people, and especially the American people, calculate in that manner; yet, however true this may be mathematically, practically nothing can be more erroneous.

The reverse is nearer the truth:

the more acres a man plants in vineyards in one season, the less profit will they yield him per acre. While a beginning with two or three acres, adding each year one or two more, may become very profitable, a beginning with ten acres or even more, will surely result in failure.

It certainly is not to the interest of the propagator and dealer in grape vines to tell you this; but be it that these are nearly all honorable and disinterested men, be it that the truth

of this is so undeniable, very few of them, if any, and certainly no experienced grape grower will dispute what I said in the premises. Mr. Fuller says: "I have always observed that the man who so arranged his plans that he was sure of a steady income, was far more likely to get rich than one who was on the look out for large sums at one time." It is true, we have heard of vineyards of hundreds of acres successfully established in a few seasons in California. I am not sufficiently informed with the condition of things *there* to account for it; *here*, it is impossible. And yet, every year furnishes new instances of men who cannot resist the temptation; who proudly boast of the *number* of acres they had put in vineyard, only to tell in a few years that they abandoned the undertaking, that it proved a failure.

There are others who do *not* plant more than a few acres in vineyard, and yet undertake too much to be successful in grape culture; with them the vineyard is simply accessory, a matter of pleasure, an experiment at most; they have their field crops to attend to, their stock and dairy; they raise corn, wheat, hay, and potatoes, but have a hill side, and want to have also their own vineyard on it, and they plant a few acres in strawberries and other small fruit, and may be a large orchard besides. They have heard that fruit growing is very profitable, and they argue that, as there are seasons of failure in most any crop, and especially in grapes, it must be best not to rely on one thing alone, but to have various branches to fall

back upon. When the one fails the other will pay, consequently they will be on the safe side. Let them not deceive themselves; so far at least as vineyards are concerned; these will not permit us to treat them as a matter of secondary consideration. The grape, king of fruits, demands a pure and almost undivided devotion; at least, he that wants success in grape culture must give his first and best care to his vineyard; his other crops must be secondary with him. The fact that comparatively many Germans and but few Americans succeed in vineyard culture, is generally attributed to a peculiar knowledge or skill and experience which Germans are supposed to possess in this branch, and I hardly ever found an American to go into vineyard planting without endeavoring to hire some German vintners for the purpose; but if you examine into the history, the biography of our most successful German vigneron in this country, you will find that none of them knew much, if any thing, about grape growing in the old country, and possessed neither skill nor experience in this branch of horticulture when they commenced; that they knew in fact not as much in this respect as any one of their unsuccessful American competitors who ever read Allen's or Buchanan's, or Chorlton's or any other American Grape Grower's Guide, imperfect as they were, and certainly by far less than those who now have Husmann's or Fuller's excellent little works to guide them. The cause of their failure and of the success of the former must be found therefore in something

else—and I for one am satisfied it is this: The *German* characteristic is “to go slow and sure,” the *American* characteristic is “a fast go-ahead-ative-ness,” too fast for success in grape culture. But *how* slow must we be, and how little, or rather how much may we undertake in order to avoid failure, and yet attain the most satisfactory results? I might answer as an old man once answered me, when I asked him how long I would have to walk to reach a certain town: “Walk on,” he said. I did not understand at first what he meant, but after a moment’s reflection I thought the man was right; he must first see how fast I could walk, what kind of steps I made, etc. So also it depends on the energy and industry of the man; not merely his mental and physical capacity, but on the labor he can command or hire, and especially the amount of capital at his disposal.

One hard working, industrious man cannot well prepare the ground, new timber land, for more than two acres of vineyard in one year; he cannot well plant more than two in one season, nor can one man cultivate more than six acres, as vineyards *ought* to be cultivated after they are trellised and bearing; and they ought not to be all of one variety, but some ripening early and some late varieties.

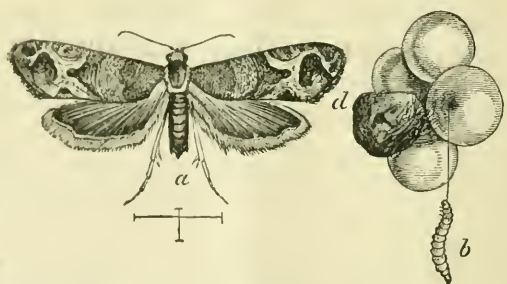
With hired hands, I would calculate fully a man to three acres; any attempt to work with less will result in neglect, inferior cultivation, and worse crops. But the greatest danger, in undertaking too much, is the insufficiency of capital. So frequently is this the case and so important its consideration, that, for fear this article might become too lengthy, I shall postpone its consideration to the next number.

THE GRAPE BERRY MOTH.

(*Penthina vitivorana*, Packard.)

[Fig. 123.]

It is surprising to notice what a great change sometimes takes place in the fauna and flora of a newly settled country like our own, in the short space, even of a



single decade of years. It is a well known fact among botanists that a great many of our indigenous North American plants have already become almost, if

Colors—(c) deep brown, pale buff and slaty; (b) olive-green or brownish.

not quite extinct, while other species and varieties have taken their places; and the entomologist who collects, for a dozen years, in one and the same locality—no matter how limited that locality may be—is pretty sure to find new species every year, while many of those which he first found in abundance either become rare or disappear entirely. The late Dr. Harris, writing to Mr. Edward Newman, in 1844, remarked: "Were I to be required to say in one word What is the System of Nature? I should say, Variety;" and if a second word were to be added, we think that word should be, Change! Scarcely a year passes but some new insect foe suddenly makes its appearance amongst us; and were it not for the fact that the ravages of others are at the same time abating, the destruction which they unitedly would cause would be intolerable.

The insect which forms the subject of this article may be cited as an illustration of such a sudden appearance in many different parts of the country, for until last year no account of it had ever been published, and it was entirely unknown to science. It had, however, been observed at Hudson, Ohio, for three or four years past, by Mr. M. C. Read, of that place, and several gentlemen who live in different parts of Missouri and South Illinois have informed us that they have also been acquainted with it for about that number of years, though they all testify that it has gradually been on the increase, and that it was never so numerous as last year. Last summer we received specimens of it from Mr. Read, and likewise from Mr. Huron Burt, of Williamsburg, Missouri, and we found it universal in the vineyards along the Pacific and Iron Mountain railroads, in the last named State. It was equally common around Alton, in Illinois, and

we were informed by Dr. Hull, of that place, that it ruined fifty per cent. of the grapes around Cleveland, Ohio. It also occurs in Pennsylvania, judging from articles which appeared in the November and December numbers of the *Practical Farmer*, where Mr. S. S. Rathvon gives an account, with description, of some worms which were sent to him by the editors, and which answer in every respect to the Grape-berry moth.

ITS NATURAL HISTORY may be given as follows: About the 1st of July, the grapes that are attacked by the worm begin to show a discolored spot at the point where the worm entered. (See Fig. 123 c.) Upon opening such a grape, the inmate, which is at this time very small and white, with a cinnamon-colored head, will be found at the end of a winding channel. It continues to feed on the pulp of the fruit, and upon reaching the seeds, generally eats out their interior. As it matures it becomes darker, being either of an olive-green or dark brown color, with a honey-yellow head, and if one grape is not sufficient, it fastens the already ruined grape to an adjoining one, by means of silken threads, and proceeds to burrow in it as it did in the first. When full grown it presents the appearance of Figure 123 b, and is exceedingly active. As soon as the grape is touched the worm will wriggle out of it, and rapidly let itself to the ground, by means of its ever-ready silken thread, unless care be taken to prevent its so doing. The cocoon is often formed on the leaves of the vine, in a manner essentially characteristic. After covering a given spot with silk, the worm cuts out a clean oval flap, leaving it hinged on one side, and, rolling this flap over, fastens it to the leaf, and thus forms for itself a cozy little house. One of these cocoons is represented at Figure 124 b, and though

[Fig. 124.]



Color—(a) honey-yellow.

the cut is sometimes less regular than shown in the figure, it is undoubtedly the normal habit of the insect to make just such a cocoon as represented. Sometimes, however, it cuts two crescent-shaped slits, and, rolling up the two pieces, fastens them up in the middle as shown at Figure 125. And frequently it rolls over a piece of the edge of the leaf, in the [Fig. 125] manner commonly adopted by leaf-rolling larvæ, while we have had them spin up in a silk handkerchief, where they made no cut at all.

In two days, after completing the cocoon, the worm changes to a chrysalis. In this state (Fig. 124 a), it measures about one-tifth of an inch, and is quite variable in color, being generally of a honey-yellow, with a green shade on the abdomen. In about ten days after, this last change takes place, the chrysalis works itself almost entirely out of the cocoon, and the little moth represented at Figure 123 a, makes its escape.

The first moths appear in Southern Illinois and Central Missouri about the 1st of August, and as the worms are found in the grapes during the months of August and September, or even later, and as Mr. Read has kept the cocoons through the greater part of the winter, there is every reason to believe that a second brood of worms is generated from these moths, and that this second brood of worms, as in the case of the Codling moth of the apple, passes the winter in the cocoon, and produces the moth the following spring, in time to lay the eggs on the grapes while they are forming.

Specimens of the moth were sent by us, last summer, to the English Lepidopterist, Mr. H. T. Stainton, for iden-

tification, but Mr. S. could not very well refer it to any known genus. Mr. A. S. Packard, jr., of Salem, Mass., however, has referred it to the genus *Penthina*, and has given it the specific name of *vitivorana*, on page 336 of his "Guide to the Study of Insects;" and from advanced sheets which were furnished him by the author, the Junior Editor of this Journal adopted this name in his "First Annual Report" (p. 135), where the insect was first described.

In the accounts above referred to, Mr. Read is quoted as authority for the statement that the first worms which appear, roll up the leaves and feed upon them; but we learn from that gentleman that this is a gross mistake, which was made by some misconstruction which Mr. Packard put upon his (Mr. Read's) communications.

THE REMEDY.—From information obtained at the late meeting of the "Mississippi Valley Grape Growers' Association," recently held at Alton, Ill., we learn that this worm is found in greatest numbers on such grapes as the Herbe-mont, or those varieties which have tender skins, and close, compact bunches; though it has also been known to occur on almost every variety grown. As already stated, there can be little doubt but that the greater part of the second brood of worms passes the winter in the cocoon on the fallen leaves; and in such an event, many of them may be destroyed by raking up and burning the leaves at any time during the winter. The berries attacked by the worm may easily be detected, providing there is no "grape rot" in the vineyard, either by a discolored spot as shown at Figure 123 c, or by the entire discoloration and shrinking of the berry, as shown at Figure 123 d. When the vineyard is attacked by the "rot," the wormy berries are not so easily distinguished, as they bear a close resemblance to the rotting ones.

Many wine makers are in the habit of picking up all fallen berries, and of converting them into wine. The wine made from such berries is but third-rate, it is true; but we strongly recommend the practice, as upon racking off the juice obtained from them, countless numbers

of these worms are found in the sediment, while unseen hosts of them are also, most likely, crushed with the husks. Those who do not make wine should pick up and destroy all fallen berries.—*American Entomologist for May.*

FROST IN ARKANSAS.

On the morning of the 13th inst. we suffered from a severe frost, quite rare in this climate so late in the year. Usually here, in the southwestern portion of the State, we have no killing frost after February. Its effects upon the grapes seem to have been very capricious. The young shoots had attained an average growth of one foot, and had from two to four flower bunches. There was a marked difference in the varieties as to their powers of resistance of cold.

An Iona vine in my garden was unhurt. An Israella, seven feet off, was entirely denuded of its shoots, save a few near the ground. A trellis of Clinton vines, which had covered the wires with foliage, was entirely blackened, as if scorched by flame. Catawba trellises, near by, were comparatively unharmed.

Herbemont vines seem to have been but little injured either by this frost or the cold of last winter, which was, several times, below 20° Fahrenheit. The shoots were several inches in length, showing flower bunches. The Herbemont being a tender vine in common estimation, this result is somewhat surprising. So far as we can judge from the young vines we have (and which all

came from the nursery of Mr. Hermann, at Hermann,) the Herbemont bids fair to behave with us in its best manner. We had some fruit of it last year, and will this season, without further casualty, have enough for wine.

Norton's Virginia and Cynthiana had been backward in leafing, and were unhurt. The Delaware escaped very well, though not entirely.

To return to the Herbemont. All our vines were obtained in the fall of '66. They have grown with extraordinary vigor, and have never suffered in the slightest degree from winter cold, even at the extreme ends of the shoots. We hope much from this grape and the Delaware, which also seems to have found here a congenial locality. It may be a tardy grower elsewhere. It is not so here.

Such a spring frost as does not occur here once in ten years has proven harmless almost to the Herbemont, Catawba, Delaware, Rogers No. 1, Norton's Virginia, Cynthiana, Diana and Iona. Concord vines were badly hurt; also, Clinton, Martha, Cassady, Israella, Allen's Hybrid, Union Village, and some others. I can not think the difference is in the hardiness of the varieties, but am un-

able to account for it from any local circumstances.

Respectfully,

JOHN R. EAKIN.

WASHINGTON, ARK., April 22, 1869.

[This communication (originally written for the GRAPE CULTURIST, though copied in advance by the editor of the *Journal of Agriculture*, to whom we showed it,) gives another illustration of the value of those vines which start rather late. The difference, friend Eakin, lies entirely in this. The Clin-

ton and Taylor start earlier in spring than almost any other variety, and consequently they will be easier injured by late spring frosts. The Herbemont, Norton's, Cynthiana, etc., start late, consequently are not harmed very easily. If we lived in your region, we would plant Herbemont, Rulander, Cunningham, Louisiana, Norton's, and Cynthiana. You need protect none of these in winter, and they are the true *wine* grapes for you.]—Ed.

NOTES ON ROGERS' HYBRID GRAPES.

By MARSHALL P. WILDER.

Now that Mr. Rogers has given names to his seedling grapes, I trust that the errors which have arisen from the confiction of numbers will soon be rectified, and thus their nomenclature be permanently secured. To assist in bringing about so desirable an object, I have thought that a description of their several characteristics, under their new cognomen, would be both appropriate and useful. I confess, however, to some disappointment that Mr. Rogers should designate any of them by foreign names, and although a rose might smell as sweet by any other name, I should much prefer to have had these grapes, originating as they did on American soil, dedicated to American genius, believing that several of them will be perpetuated to future generations "with a benison on the giver."

The numbers between and including 5 to 14 are from impregnations by the White Chasselas; all the rest

are from crosses by the Black Hamburg.

DESCRIPTIONS.

GOETHE, OR No. 1.—This variety is unique, and exhibits more of the foreign element in its fruit than any other of the Rogers' Seedlings. The vine is hardy, vigorous, and free from mildew, rot, or any other blemish. *Bunches* large, shouldered; berry long, oval, resembling the White Malaga in form; color yellowish green, and when fully ripe becomes considerably flushed, bronzy red; flesh tender and melting, with a peculiar pleasant aroma; season late, coming in about the time of the Isabella.

MASSASOIT, OR No. 3.—The earliest variety. Bunch rather short, medium size, shouldered; berry medium size; color brownish red; flesh tender and sweet, with a little of the native flavor when fully ripe; season same as the

NOTE.—There are some remaining numbers with which further experience is desirable before giving them names.

Hartford Prolific; very free from disease, and sufficiently vigorous.

WILDER, OR No. 4.—Mr. Rogers desiring to dedicate one of his varieties to my name, I made choice of No. 4. The vine is vigorous, hardy, and prolific; bunch large, often shouldered, sometimes weighing a pound, and in appearance resembling the Black Hamburg; berry large; flesh tolerably tender, pleasant and sweet; ripens with or before the Concord, keeping for a long time. This promises to be one of the most profitable and popular varieties for the market in cultivation.

LINDLEY, OR No. 9.—This is a cross by the White Chasselas. Vine vigorous, long jointed, productive; young foliage of a reddish hue; bunch long, compact resembling the Frontignacs in form; berry below medium size, roundish, free from rot; color bronzy red; flesh tender; flavor sweet, pleasant, in good seasons rich, comparing favorably with the Delaware in quality; season middle of September.

GÆRTNER, OR No. 14.—Bunch good size; berry medium to large; color light brown or red; skin thin; flavor pleasant and aromatic; season rather early; vine healthy and productive.

AGAWAM, OR No. 15.—This was originally considered as one of the highest flavored and best grapes of the collection, which reputation it still bears in favorable locations and good seasons. Bunch of good size, rather loose, shouldered; berry roundish to oval, large; color like the Catawba; flesh tolerably tender, leaving little or no tough pulp; flavor high, pleasant, aromatic, making an excellent wine. The vine is vigorous and

very productive, one of six years having produced and ripened perfectly five hundred bunches of grapes. During the last unfavorable seasons this variety has been more affected with rot and mildew than most of the other kinds. Succeeds well at Cleveland, Ohio.

MERRIMACK, OR No. 19.—One of the most reliable varieties in all seasons. Vine very vigorous, free from disease; bunch usually smaller than most of the black sorts; berry large, sweet, tolerably rich; season about the 20th of September.

SALEM, OR No. 22 OR 53.—The original number of this grape was 22, but, as Mr. Rogers states, a spurious 22 having got into circulation, the number was changed to 53, when offered for sale. Bunch rather large, broad, shouldered; berry large, round, color dark, bronzy red; flesh tolerably tender; flavor sweet, rich, aromatic, in quality one of the best; vine very vigorous, healthy; wood of a lighter color than most of the Rogers grapes; season middle of September.

REQUA, OR No. 28.—Vine tolerably vigorous, and quite productive; bunch large, shouldered; berry medium size, roundish; skin thin; flesh tender and sweet, with a trace of the native flavor; color bronzy green, assuming a dull brown red at maturity; season middle of September. A grape of fine quality, but subject to rot in unfavorable seasons. Dedicated to the late Mr. Requa, of Salem-on-Erie.

ESSEX, OR No. 41.—This is perhaps the best in quality of all the black grapes. Vine vigorous, healthy, and prolific; bunch medium size, should-

dered; berry large, a little oblate, resembling in form the female parent; flesh tender, sweet, with a rich aromatic flavor; ripens about the 20th of September. Were the bunches of this variety as large and uniform as the Wilder, or No. 4, I should pronounce it the best black American grape we possess.

BARRY, or No. 43.—One of the most vigorous, beautiful, healthy, and productive varieties. Bunch above medium size, rather broad and compact; berry roundish, inclining to oval, much like Black Hamburg in general appearance; flesh delicate, sweet, and comparatively tender; skin thin; color black; season, ripens with the Concord. This variety is dedicated to Patrick Barry, Esq., the distinguished nurseryman and pomologist, of Roch-

ester, N. Y., and can not fail to please the cultivator.

HERBERT, or No. 44.—Much like Barry, or 43, in constitution, and health, and productiveness; bunch a little larger; berry round, large to quite large, sometimes a little flattened; color black; flesh rather tender, sweet, and rich; season, before the Concord. A valuable variety.

[We are glad to be able to give to our readers an accurate description of these valuable hybrids from so celebrated and reliable a source. Mr. Wilder has had a better opportunity than most men to form an accurate opinion of their merits, and certainly there is no one more competent than this veteran of American Pomology to judge of them as they deserve.]—Ed.

THE TRIAL OF WINES AT HERMANN, MO.

On the 17th of May, was not as well attended from abroad as the occasion deserved, or the merits of the wines there exhibited would have justified. It was however a truly pleasant affair, and the beautiful grounds of the Agricultural Association, with their mantle of brightest verdure, and dotted with beautiful shrubs and trees, many covered with bloom, offered one of those bright scenes which always leave a "green spot in the memory."

The wines, collectively and individually, were very good—better than on any former occasion—and proved again how fast our grape growers are learning, and how rapidly the improvements

are taken up by them, which our native wines yet needed. Among the new candidates for public favor we noticed a bottle of Hermann, the new seedling of Mr. Langendorfer. The Hermann attracted general attention, and will no doubt fulfill all it promises. Its strong, and yet so pleasant Madeira flavor, will make it very much sought by the lovers of that class of wines. An extra premium was awarded to it. Another seedling, of Poeschel and Scherer, which is said to have come from Delaware seed, but which shows a strong tendency to fall back upon the old *Aestivalis*, makes a heavy, brownish red wine, of strong flavor, which to us, however,

had not the smoothness of the Cynthiana and the best of Norton's; and we confess that we can not see that excellence in the wine which its originators claim for it. The vine, which we have seen in their vineyards for a number of years, is a strong grower; leaf very large and thick, resembling the Aestivalis; bunch and berry small, black, not very palatable as an eating grape, and very healthy and productive. It would certainly be premature to express any decided opinion about it yet, and the wine, which is very fair now, may much improve when made in larger quantities. The committee thought it worthy only of a second premium. The Taylor, of which there was only one sample exhibited pure, was considered the best white wine on exhibition by the committee, a decision from which we must decidedly differ, as we considered the Rulander exhibited by F. Kuhn much superior to it. However, "*de gustibus non est disputandum*." It was certainly a fine wine, of high character.

The premiums were awarded as follows:

Taylor, exhibited by Poeschel and Scherer, first premium.

Taylor and Herbemont mixed, Jacob Kuhn, second premium.

Taylor and Delaware mixed, B. and H. Petrus, third premium.

DELAWARE—TWO ENTRIES.

First premium awarded to No. 1—William Poeschel.

Second premium awarded to No. 2—Poeschel and Scherer.

RULANDER—TWO ENTRIES.

First premium to No. 2—Poeschel and Scherer.

Second premium to No. 1—Jacob Kuhn.

Both very fine. That made by Jacob Kuhn we consider the finest white wine we have ever drank. No. 2 may be heavier, but to our taste has not the delicacy and fine flavor of No. 1.

HERBEMONT—THREE ENTRIES.

First premium, B. and H. Petrus, Hermann, Mo.

Second premium, Poeschel and Scherer, Hermann, Mo.

Third premium, Bluffton Wine Company, St. Louis, Mo.

All very fine wines.

CATAWBA—EIGHTEEN ENTRIES.

First best, No. 16, Poeschel and Scherer.

Second best, No. 15, Poeschel and Scherer.

Third best, No. 4, Wm. Poeschel.

Fourth best, No. 14, John Fleisch.

Fifth best, No. 5, Gottlieb Grossmann.

Sixth best, No. 1, Henry Henze.

Seventh best, No. 7, Jacob Strassner.

Eighth best, No. 13, John Fleisch.

Excellent samples, all of them.

CONCORD—THIRTEEN ENTRIES.

First best, No. 13, Dan. Strecker, graded at 100.

Second best, No. 5, Jacob Strassner, graded at 98.

Third best, No. 4, Jacob Kuhn, graded at 95.

Fourth best, No. 6, J. J. Schmidt, graded at 93.

Fifth best, No. 2, John Mueller, graded at 90.

Sixth best, No. 8, Melch. Poeschel, graded at 90.

Seventh best, No. 7, B. and H. Petrus, graded at 90.

The Concords showed a great im-

provement, and were very fine wines generally.

NORTON'S VIRGINIA—ELEVEN ENTRIES.

First best, No. 11, Dan. Strecker, graded at 100.

Second best, No. 6, B. and H. Petrus, graded at 98.

Third best, No. 5, B. and H. Petrus, graded at 94.

Third best, No. 9, Poeschel and Scherer, graded at 94.

Fourth best, No. 7, Melchior Poeschel, graded at 90.

Good wines in general, but not superior to former exhibitions.

There were fifty-four entries of wines in all, and though not as grand an affair as the exhibition at Alton, it was cer-

tainly another proof of the rapid progress of grape culture and wine making. After the committee had ended their laborious task, it assembled and partook of an excellent cold collation provided by Mr. E. Lessel. In the afternoon the families of the members flocked in, and the grounds presented a very lively and animated scene. It was a pic-nic *en masse*, enlivened by music and song, and another illustration of the old saying, that "wine maketh glad the heart of man." Those who oppose the making and drinking of wine from conscientious scruples could have seen here that, although its use may promote innocent hilarity, yet it certainly does not lead to intemperance.

EDITORS' LETTER BOX.

EL DORADO, ARK., April 27, 1869.

Dear Sir: About ten years ago I commenced experimenting with the grape. The Isabella, Catawba, Pauline, Warren (or Herbemont), Delaware, a black grape called the Warrenton, the Lenoir, and a white grape (small but very compact bunches—don't know the name), a wild grape from Texas, called the Texas Post Oak, and the Scuppernong. All bore well for the first two years after they commenced bearing, in 1860-'61. Since then the Scuppernong has never rotted nor failed to bear an annual crop, varying however in quantity. The others, without exception, have proven worthless since. Last year I had a few Catawba, Delaware and Herbemont to ripen. All fruit well in spring, but not afterward.

I have a few Clinton and Hartford Prolific vines which will bear a few

bunches this season. Can't say what effect the mildew will have on them. I have put out a few cuttings of the Concord, and am experimenting with several wild grapes.

I have planted none extensively but the Scuppernong, just experimenting with the others, trying to find some which will suit this locality.

I have but few Scuppernongs which are bearing—say twenty-five vines—which have heretofore borne, and a few more which will bear this season for the first time that were set out last year, of which I then set out about thirty. This last winter I extended my Scuppernong vineyard to five acres in all. About two acres of those I set out this winter were of the Flowers kind.

I have been experimenting in making wine from the Scuppernong, and have made some very fair. (White wine, of

course.) The Flowers grape will make a red wine. It is of the Muscadine species, by some said to be a seedling of the Scuppernong, by others not

Locality, 33 deg. 10 min. north latitude; vineyard faces to the E. S. E.; sloping hillside; soil sandy, with clay basis; moderately fertile; needs under-draining. The portion I set out this winter, four acres, is fresh, still having part of the brush and logs in the squares of the vines, which are set 30 by 30 feet. On the north and east stand high forest trees, nearly half of which are pine, the balance oak, hickory, black gum, sweet gum, etc. A great many Muscadine vines growing wild all over it. The vines I set out in this fresh, rough ground were set in holes one foot deep, three wide, filled with top soil. Around those where the soil is anyway thin, I had from two to five bushels of well rotted top soil thrown. Nearly every vine is putting out. The Flowers the earliest.

The nearest body of water is the Washita river, twelve miles east; channel about two hundred and fifty yards wide; and its bottom, which overflows during winter and spring, five to ten miles. It may have a very slight influence on the temperature during spring time of the overflow, but none in the fall.

I have kept no meteorological journal, and can give you no data on that point otherwise than that our rains partake, to a greater or less extent, of the tropical, with annual drouth during July or August, sometimes both.

This last winter was extremely mild. No snow fell here, nor was there ice exceeding half an inch. Winter before last, snow fell eight inches deep; ice one to one and a half inches thick. We had a frost and slight freeze the 15th of this month, which bit early vegetation; and although it did not kill fruit, it injured it

so that it is falling off now considerably.

There are two Scuppernong vineyards in this county (Union) bearing; the larger is owned by M. A. Holbrook, twelve miles from here. He has about seven acres bearing. During the war he neglected his old vines, and his young ones have just begun fairly to bear. I think he made five hundred gallons last year (expects to make a great deal more next), and has sold most of it, the lowest at \$3 50 per gallon by the barrel. Sold about \$400 worth of rooted layers.

Having stated all the facts which I think can have any bearing on what I have to propose, I will come to the points.

1. I want you to send me a man with a small family, *honest, industrious and sensible* (don't want any other kind), to assist me in preparing and cultivating my vineyard. It wants underdraining, cleaning off, and the soil thoroughly worked; the vines staked and trained this year, next the more thrifty ones need scaffolding. (I speak of the Scuppernong.) The year after all will want scaffolding.

I propose, as the Scuppernong vines are thirty feet each way, to experiment with the bunch grape, trying all kinds of American grapes in the middle, until the extension of the vines and scaffolding shall occupy the ground; also experimenting with seedling Scuppernongs.

I will furnish everything required about the vineyard, except he must get out and haul timber, and give such a man \$250 per annum for the first two years, and after that share the profits. I furnish neat small box house, land for garden, he feed and clothe himself and family. Out of the first year's wages I will advance, if necessary, enough to pay expenses of getting here, and provisions. This partnership, or lease, to extend seven years, with privilege, if agreeable, of extending the same. He

must give it and my orchard his whole attention.

I forgot to say in the proper place that I have a rude cellar under my dwelling, capable of holding fifteen hundred to two thousand gallons; but although six to seven feet deep, the temperature is perhaps too high. It has, however, kept the wine I have made (thirty to fifty gallons per annum) very well.

A vineyard of Scuppernongs, after properly in bearing, with one-fourth of the labor required by the bunch grape, will average from five hundred to seven hundred and fifty gallons per acre—even at \$1 per gallon, \$500 to \$750 per acre annually, to say nothing of layers, which Holbrook sells at \$30 per hundred. As this vine never blooms until May, and our winters are very mild, it is never hurt by frosts.

Owing to the lateness in the season I hardly expect one would come before next fall or winter. Should be glad to see one soon.

In regard to the health of this place I was raised at the foot of the Blue Ridge, in North Carolina; have lived here twenty years, and it has been the healthiest period of my life. Good water; the country hilly and undulating, and heavy timbered; short-leaved pine prevailing. No swamps near.

2. I want your opinion, without disguise, on the whole, item by item.

Please let me hear from you at your earliest opportunity.

These are pretty liberal demands on a stranger, but if you possess the spirit breathed in your book I shall expect them.

Very respectfully,

JOHN H. CARLETON.

[Your vineyard wants underdraining, we should suppose. By *bunch grape* we suppose you mean our common grapes, in contradistinction to the Scuppernong, Muscadine, etc. We give your offer publicity through the GRAPE CUL-

TURIST, thinking that it will most likely draw attention in its columns. We think you ought to try the Nortons and Cynthiana. Do not think your plan of planting other varieties among the Scuppernong will work. You can not expect fair returns from them when overrun and shaded by Scuppernongs.]
—Ed.

WALLA WALLA CITY, WASHINGTON TER., }
April 29, 1869. }

Dear Sirs: I just received the April number of your Journal, and am quite well pleased with it. It is truly a journal for the grape culturist, and should be patronized by every man who has a vine—and every man who has a rod of ground should have vines planted. We now have varieties so hardy and early, that nearly every locality will ripen some one of them, and if any man is so unfortunate as to be located where none will succeed, we advise him, leave it at once.

Grapes are the fruit for the poor man especially, as he who has only a house lot of the smallest possible dimensions can plant vines beside his cottage, and their roots will extend and profitably occupy every inch of ground underneath his house, and from that small amount of space produce all the fruit that his family can consume, while the vines afford shade and protection to his building, and add beauty to his little home. Occupying no space either above or below the ground to interfere with other interests, the grape vine will in a less time produce more fruit with less labor and attention than any thing that ever was planted. How few there are even in this land of horticultural literature, who have any knowledge of this most valuable fruit! Nearly any man will tell you he understands cultivating and pruning apple trees, but grapes require too much skill, too much work. How absurd! A *grape vine* requires

more skill or work than an apple tree! If the people would read more on this subject they would see their mistake. And such journals as yours will open the eyes of many a man before five years roll around, and thousands who now think grapes belonging only to the wealthy or the skillful horticulturist will see that it is the fruit for the *million*—the poor man's fruit.

To plant and cultivate on a large scale, we should be well versed in all that appertains to the more improved modes of culture, and the tedious details of planting, pruning and training usually described in works on the subject, have a tendency to deterring from planting even a few vines, as they get the idea that there is so much skill required, that a man of only ordinary intelligence is not competent to undertake to raise a *grape vine*.

Let me say to my friends, plant a few vines, cultivate the ground well, cut away about half the growth of previous summer when the leaves drop in the fall, and see if you do not soon have grapes for your table; and be sure and send for the *GRAPE CULTURIST*. Thus in a very short time you will be prepared to enter into grape growing for a *business*. Success to all.

A. B. ROBERTS.

P. S. Send me another copy of the *GRAPE CULTURIST*, as I want one to lend. I want you to send me all the back numbers of both copies.

[Thanks for this friendly greeting across the mountains! We hope your advice will be followed; that all will plant vines, and all send for the *GRAPE CULTURIST*. So may it be!]
—ED.

BALTIMORE, MD., May 8, 1869.

Messrs. Editors: Perhaps your readers may not be familiar with the method of grafting the vine in Burgundy, which Mr. Bronner describes in his book, "The

making of Red wine," page 57; I therefore give a description here:

"A trench is dug about a foot deep, commencing at the vine which you wish to graft, and the vine bent into it after carefully cutting off its upper roots. About two feet from the parent vine, you select a smooth place on one of the arms, at least two years old, and cut it so that you have at least two inches of smooth wood to insert the scion. This is split with the knife about $1\frac{1}{2}$ inch deep. The scion should be an unpruned branch of the former season's growth, with a few inches of 2 year old wood attached to it. This is cut to a long wedge, and inserted in the split, so that the bark of the stock and scion fit closely together. It is then firmly wrapped with thread, bent into the trench, and covered with earth, so that at least a foot of the scion is in the ground, and two eyes above it." This method, according to Bronner's statement, is sure of success, and the vines thus grafted will be very durable.

I have grafted in the usual manner something like 1,000 Clinton, Isabella and Catawba, with very poor success, and had abandoned almost entirely, until I lately saw Bronner's book. The greatest difficulty of it is, that it takes a large amount of wood for scions.

Your *GRAPE CULTURIST* seems to fill, in the proper manner, a long felt vacancy in our periodical literature, and I hope it will meet with all the success it merits.

I commenced to plant a vineyard here about two years ago, and have now about 15 acres in vines. I think I shall have a considerable crop this season of Concord, Ives, Hartford and Nortons.

Of the Nortons, my larger vines are showing from 20 to 30 bunches at an average. Are you not somewhat unjust towards the Ives? It bears here the third season, and the plants, when re-

ceived, were of rather poor quality. I received a bottle of wine from a Mr. Arenty, in Cincinnati, which will favorably compare in bouquet, smoothness and pleasant flavor with good imported Burgundy, although not equal to the Norton's, which I tasted at the house of Mr. Wm. Rentz, at Cincinnati. Have you tried the method of Pasteur, of heating wine, and thus ripening it sooner, and will your readers be advised of the result? It will also be introduced in Austria, mostly for the lighter wines. Should we not try to get Congress to impose a duty of 50 cents to the gallon on the light imported wines?

Yours truly,

CHAS. L. SCHMIDT.

[The method of grafting you describe we think would be impracticable, for several reasons. One of them is, as you remark, the scions have to be too long, and we seldom have wood enough of the new varieties to waste so much on a single vine. Another is the immense labor involved. A third, the difficulty of bending the vine with the scion without in some way removing it. We think you will experience no difficulty if you follow the method described in the March number. Our friend, Sam. Miller, has grafted some 1500 in that manner in March and April, of which the majority seem to grow.

We do not think we are unjust towards the Ives. We have tried a great many samples of the wine, and although some among them were very fair, they were not better than the best Concordes. You yourself acknowledge that it is not as good as the Nortons. We shall be most happy if we find reason to change our opinion, but so far we can not do so.

The method of Pasteur will be duly discussed in the continuation of the article "The Chemistry of Wine." We can not tell *all* we know, at once, al-

though we do *not* profess to know *all about* wine making, and grape growing, as some pretend to know. "Gie us time, gude folks," and you will get all *our* secrets.

As to the duty question, we hope to be able in a few years to furnish wines so *good* and so *cheap*, that they will drive the lower brands of imported wines out of the market, surer than any tariff could do.]—ED.

INDIAN RUN P. O., Mercer Co., Pa. }
May 3, 1869. }

Dear Sir: I send you by mail this day two varieties of grape vines — small plants. One is called Craig, after the name of the man that brought it here, some fifty years ago or more; the other is called French grape; and they both are known here by the name of French grape. They were found growing, more than sixty years ago, at the old French Fort, Alleghany river, where the town of Franklin now stands, some twenty-five miles northeast of this place. Our first settlers supposed that the French had planted them there while they occupied the Fort in earlier days. However, they may be some of the wild grapes, as a great many grew here wild in the first settling of the country. But I have never found, seen or heard of any that was like them. They have never been propagated any, but some little that I have done. The vines are hardy, and there is no telling how old the original vines are. The growth of the vines and fruit of the two are different. Fruit dark colored; bunch and berry medium sized; ripe after the middle of September; full of quite red juice, and not bad to eat when ripe. Several persons have made tolerable fair wine of them, trying them in small quantities only, as we do not understand nor make much wine here yet. I am planting out considerable grapes of different kinds, and may

try wine-making after awhile. I bought one of your books on the subject.

I hope the plants will reach you safely; and if they should prove worth growing, would be glad to hear it.

Yours truly,

JAMES A. NELSON.

[Thanks for the vines, which came to hand in good order, and were carefully planted in the Experimental Vineyard at Bluffton. They will be carefully watched, and reported on in due time.]—Ed.

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
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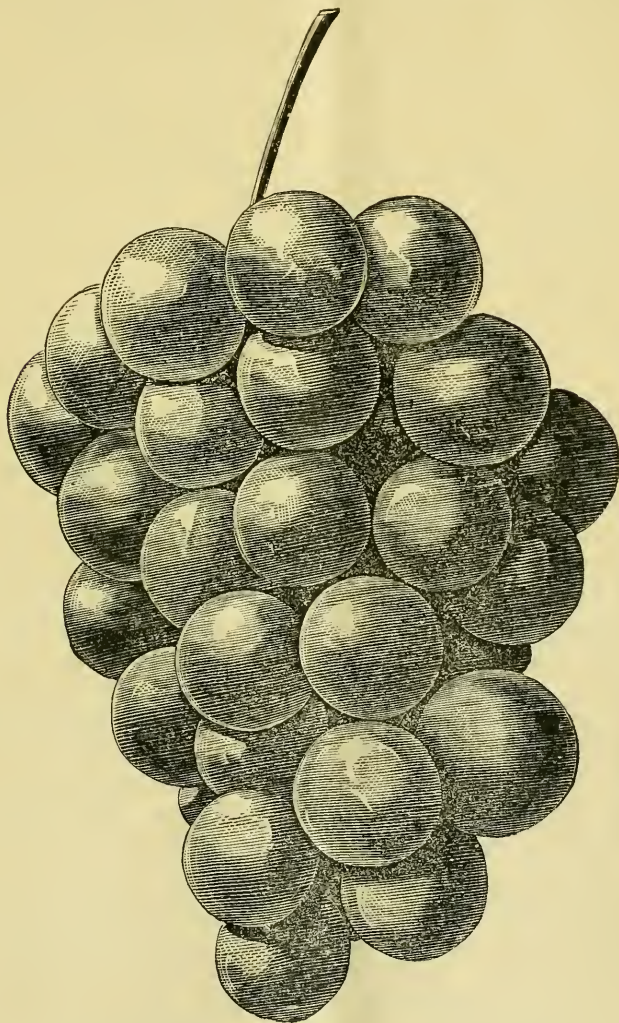
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THE GRAPE CULTURIST.

VOL. I.

JULY, 1869.

No. 7.



ROGERS' HYBRID NO. 8. (*See next page.*)

ROGERS' HYBRID, NO. 8.

We were sorry to see that Mr. Rogers, in naming some of his valuable Hybrids, omitted this, which, for our latitude, we consider one of the most promising. The reason, we think, may be found in the fact that Mr. Rogers, living in Massachusetts, generally found this grape too late for that latitude. With us it ripens perfectly, and is, we think, worthy of extensive trial here and further south.

Bunch medium, compact, some times shouldered, generally three to four on each bearing branch; berry above me-

dium, pale red, round, without toughness in its pulp, sweet and aromatic, with a good deal of the Frontignan flavor, closely resembling No. 1 (Goethe) in flavor, appearance and character. Goethe has, however, an oblong and somewhat larger berry, and not as compact a bunch.

The vine we have fruited for three years; have found it generally healthy in fruit and foliage, and very productive. Fully ripe with us about the 20th of September.]—ED.

 THE VINEYARD.

WORK FOR THE MONTH.

If the vintner has been diligent in pinching and summer pruning, but little will be left to do for him in that respect, except now and then to shorten in an unruly branch which may hang too far into the row. Keep the young canes neatly tied to the trellis; where a bearing branch becomes too heavy and threatens to break down, it should also be tied lightly. The young canes will now have reached the top of the trellis, even where pinched, and they and their laterals should now be led along the upper wire, to form a leafy canopy above the fruit, which should be, if properly trained, mostly on the second wire. In all cases tie loosely; it will not do to cramp the foliage.

Should the weather be dry, plow

and hoe frequently, so as to keep the soil loose and mellow. Never allow the weeds to get ahead of you, if you can help it, but keep ahead of them, by frequent hoeing and plowing. But if the weather should be wet, do not work the ground under *any* condition. It is the worst thing you can do.

Look after your grape grafts; many of them may start only now, and as long as the scion is fresh and green there is hope. Take away the suckers from the roots, taking care not to disturb the scion. Keep your cutting beds clean and mellow; this is their principal growing month, and they will need good attention.

Look out for the grape vine *Fidia* (described in May No., page 153). An apparatus, somewhat in the shape

of Dr. Hull's Curculio Catcher, will be found useful in destroying them. It consists of a piece of canvass stretched over a light wooden frame, in the shape of an inverted umbrella. By holding it under the vine early in the morning and giving the trellis a slight jar, they will tumble down into it, and can then be easily destroyed when they are yet in a torpid state.

Summer layering may still be continued, if the weather is not too dry. See June No. about *modus operandi*.

This will be an excellent time for digging cellars where needed. As this is an important subject, we shall try and give our views about the best and most economical arrangement of them in a separate article.

GRAPES IN MARYLAND.

MESSRS. EDITORS:—Presuming that a few words from one who is almost a novice, though an ardent lover of grape culture, might be acceptable, we offer you a voice from Maryland, certainly a land much favored for the production of fruits. We, of the Peninsula, embracing the eastern shore of Maryland and all of Delaware, supply almost entirely the eastern section of our country with peaches and small fruits, and we hope soon to rival the West in the supply of fine grapes. On our own fruit farm, we have seventeen acres devoted to the culture of grapes, almost entirely Concords—one-half of them upon wire trellises and in full bearing, and the balance coming in next year. The vines at this date (June 9th) are in full bloom, (how does this compare with Bluffton?) and promise a large yield of very fine fruit. Last year we began marketing fully ripe grapes on August 31st, and this season is ten days ahead of last year in blooming.

We have also a younger experimental vineyard, consisting of about

one hundred vines each—Delaware, Salem, Iona and Israella, the success of which we will report at another time, simply remarking, however, that our Delawares are making equal growth with Hartfords by their side.

Our farm is located on a neck of land formed by two arms of the Chesapeake Bay, being about a mile wide from river to river, and three-quarters of a mile from their confluence, and our vineyard land has a southern inclination of about twenty-five feet in the thousand, and bordering on the river, thus affording the benefit of a large body of water, slightly brackish. Our latitude, 39° 29", our soil light loam with yellow clay subsoil, and of good, natural surface drainage, and our vines appear to thrive.

We are training them this year, with the intention of fruiting next year on the laterals, as in addition to your experience we have observed with how much more vigor the buds pushed forth upon laterals that were accidentally left upon the vines, which

vigor has also been apparently imparted to the young bunches. We hope to be able to report favorably upon it next year.

Wishing you much success in your editorial enterprise, and with a desire to contribute a mite to its accomplishment, I am, yours, truly,

EDWARD P. HIPPLE.

Bohemia Fruit Farm, Town Point, Cecil Co., Md.

[We are glad to hear from you, and hope that you will find grape growing both pleasant and profitable. The time of blooming of the Concord, it seems, is about the same here as with you. Thanks for your kind wishes. Let us hear from you frequently.]—Ed.

BUILDING WINE CELLARS.

Many of our grape growing friends who have planted vineyards years ago, and expect a rich return of fruit this season, will have to build this all important appendage to a vineyard this summer. As we had a chance, during our sixteen years' experience as a grape grower, to see a good many different ones and compare their merits; as we built a very large one ourselves, which, after a few years' trial, did not quite suit us in all its arrangements, we may be qualified to give a few words of advice in this matter.

First and foremost, let us say, that we do not intend this especially for those who have plenty of cash at their command. These, we know, form but a small part of our grape growing community, and need help and advice least of all. If they can afford to spend \$10,000 for a wine cellar, they can also find an architect to draw them a plan, and arrange matters to suit all their whims and fancies. It is the poor, hard working man, he who has started with limited means, we would try to aid and counsel especially, for he needs it the most.

And let us tell them at the start: Do not commence building a cellar until you have realized enough from your vineyard to do it with. If there is a market for your grapes in the neighborhood, where you can dispose of them at reasonable prices, do so, until you have gained money enough from their sale to build a cellar with. Or, if you have no market for your grapes, dig a hole in the ground, say eight feet deep, and as wide and long as you may need it for the quantity of wine you intend to make; plank it inside, or block it up with logs, to keep the ground from falling in, make a rough roof over it, and your wine will be safe enough for the first winter. Of course you will have to try and dispose of it before the greatest heat of summer sets in; you may have to take a lower price than you think it is actually worth; but it will be much better than to build a cellar, which, with all the fixtures, will generally cost much more than you at first calculate—before you can afford it. Or, if you have neighbors who also need cellars, club together and build

one in partnership. It is much cheaper, comparatively, to build a *large* cellar than a *small* one. But neither you nor your partners must be of a jealous disposition. You must be inclined to work harmoniously, each giving the other an equal chance. If you are not willing to do that, better wait and build one for yourself alone, when you are able. Some people have such a surly, sour disposition that even wine, that most genial gift of God to man, will make them quarrelsome. If you have such a disposition, or find it in any of your neighbors, don't you build a cellar together. It would prove to be the "apple of contention" among you, and this is a fruit which grape growers should not cultivate.

To those who intend to build a cellar with limited means, say not over \$2,000, we think the arrangement of our friend Moore (May number, page 135) an excellent one. It is convenient and cheap, but we think he has done a good deal of the work himself, and charged it very low, or he could not have made it for \$1,400. Better add \$600 more if you want to be on the safe side, and it will still be a *cheap* cellar.

Let us now look at the requisites of a good wine cellar a little closer.

1st. If you intend to keep wine in it over summer, it should be so constructed as to keep an even temperature, summer and winter. To attain this, choose the north or east side of a hill, (provided always that you are in the hills,) and make the cellar for storing your wine about twelve feet deep. This I would prefer to arch over, either with stone, or brick as it

may be more convenient, for it will keep a more even temperature. If the hill is steep enough to allow you to make the door even with the earth, you will find it a great convenience in handling casks, loading and unloading, etc. You can build an approach in front, which need not be arched, to store your empty casks, etc. Make it on as dry a place as you have, for water is a great nuisance in a cellar. If the cellar is too damp, the casks will always be and look mouldy, which is neither agreeable nor useful.

2d. It should be in a *convenient* place—a place to which you can take your grapes with the least trouble and labor, and from which you can ship your wine with the greatest ease.

3d. It should have the proper dimensions. There should be room sufficient for two rows of casks, one at each side, and space enough in the middle to roll and handle casks, racking, etc. A good sized cask, say 500 gallons, is about five feet long and high. Allowing 1½ foot of space at the wall, to enable you to get around them freely, it will take 6½ feet on each side, or 13 feet on both sides. The passage in the middle should be at least 5 or 6 feet, which will make it 18 or 19 feet. Between 18 and 20 feet will therefore be the proper width for two rows of casks.

4th. You want a fermenting room or cellar, as much as you do a cellar for keeping your wine, and this should not be kept at as low a temperature as your cellar to *keep fermented* wine. What is, therefore, more natural and convenient than to build it *above* this? It need not be in

the ground ; if it is sunk only a few feet, it is sufficient. If, in other words, you make this a good, tight *room*, into which frost will not penetrate, without fire until beginning of December, it will answer all purposes. You can even keep a stove in it, should the weather become too cool, and *make* the temperature to suit yourself. This must of course be connected with the lower cellar by hose. Nine feet high will be sufficient.

5th. You want a press room. For reasons obvious to every one, this should be above the fermenting room, and so arranged that the must can be run into the casks (or vats) from the press. It should have ample room for the press, grape mill, and all the utensils used in wine making ; and it can also be made convenient as a store-room for all the tools used in the vineyard.

6th. You need a supply of water always handy. For this you want a good cistern, and the arrangement of our friend Moore is an excellent one.

As a summing up, we find that to suit all these requirements, the building should be three stories high ; the lowest to be below the ground altogether, built of stone or brick, and, if possible, arched. The second partly below ground, and the third altogether above it. These may be constructed of anything which is most handy—stone, logs, frame, etc.

In our next number we will give a list of the utensils used, cellar furniture, etc., so that those who intend to follow our advice can now go on and build their cellars ; and when they have completed them, we will give them our advice how to fill them.

CIRCULAR OF THE AMERICAN POMOLOGICAL SOCIETY.

WHEREAS, the American Pomological Society, at its last meeting, accepted the invitation of the Pennsylvania Horticultural Society to hold its next session in the city of Philadelphia ; and whereas, the latter Institution has generously proffered accommodations for us in its new, elegant and spacious hall : therefore, the undersigned hereby give notice that the twelfth session of the American Pomological Society will be held in Horticultural Hall, Philadelphia, Pa., on the fifteenth day of September, 1869, commencing at 11 o'clock A. M., and continuing for three days.

The present session promises to be one of the most auspicious, in point of numbers, intelligence and importance, which the Society has held. From all parts of the country, assurances are given of cordial co-operation and aid. Delegations have already been appointed from several States, among which we may name Kansas, whose Legislature has nobly appropriated five hundred dollars to defray the expenses of her representatives. The exhibition of the Pennsylvania Horticultural Society will also take place at the same time, which will add further interest to the occasion.

All Horticultural, Pomological, Agricultural and other kindred institutions in the United States and British Provinces, are invited to send delegations, as large as they may deem expedient; and all other persons interested in the cultivation of fruits are invited to be present and take seats in the Convention.

And now that our Southern brethren, after a painful separation of years, are again united with us in full fellowship and communion, we invite all the States and Territories to be present, by delegation, that the amicable and social relations which have heretofore existed between our members throughout the Union may be fostered and perpetuated, and the result of our deliberations, so beneficial to the country at large, be generally and widely diffused.

Among the prominent subjects which will come before the Society at this session, will be that of the further revision of the Society's catalogue of fruits. For the purpose of aiding in this most desirable object, an *ad interim* meeting of the officers and fruit committees was held in the city of New York, on the tenth day of February last, the result of which will be made known at this time. The special committee appointed for this purpose are now, with the various State and local committees, actively engaged in collecting such information as will aid in determining what varieties are best adapted to the different sections and districts of our country; and this information, in the form of reports, will also be submitted to the action of the Convention. The several State Pomological and Horticultural

Associations are requested to compile lists for their own States or districts, and forward them, at as early a day as possible, to P. BARRY, of Rochester, N. Y., Chairman of the Committee on the Revision of the Catalogue.

Members and delegates are requested to contribute specimens of the fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the Society and the science of American Pomology.

Each contributor is requested to come prepared with a complete list of his collection, and to present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as soon as practicable.

All persons desirous of becoming members can remit the admission fee to THOMAS P. JAMES, Esq., Treasurer, Philadelphia, who will furnish them with transactions of the Society. Life membership, ten dollars; biennial, two dollars.

Packages of fruits, with the name of the contributor, may be addressed as follows: "American Pomological Society, care of Thomas A. Andrews, Horticultural Hall, Philadelphia, Pa."

Arrangements have been made with several hotels in Philadelphia for a reduction in price of board. Similar negotiations with the various railroad corporations are also in progress, and of which due notice will be given.

MARSHALL P. WILDER, Pres't,
Boston, Mass.

F. R. ELLIOTT, Sec'y,
Cleveland, O.

[We received the above from the

venerable President of the Association, Hon. Marshall P. Wilder, and call the attention of all our grape growing friends to the importance of the meeting. Let the grape, its friends and its products, be well represented at this national congress of fruit

growers. It is a truly *national* fruit, and should therefore be fully represented. And as for our wines—this will be an excellent opportunity to show the world what they are already, and what they are yet destined to be.]—ED.

GRAPES IN CONNECTICUT.

P. M. Angur, of Middlefield, Ct., writes us as to the progress of grape culture in that State :

“It does not seem to receive much attention, and the impression is widely spread that it does not pay to attempt cultivating a crop so uncertain. Intelligent management and good culture are essential to success, and these are scarce qualities among the growers of this State. Where profit is expected and not quality, none but the hardy grapes should be set. The question of varieties is a puzzling one, for upon a judicious selection depends success or failure.

“The Concord, thus far in Connecticut, is in advance of all other varieties. None, I presume, will claim any special merit for quality, but its great hardiness, vigor of growth, and productiveness of fruit of fair quality, make it a favorite with the masses. In every exhibition that I have attended, its popularity is largely in excess of any other variety.

“A vineyard in New Haven county, where Concords were planted, made a very heavy yield last year; whereas the Delaware, the Iona, the Creveling,

and some other varieties were almost a failure.

“For an *early* grape the Hartford Prolific is the most productive. The fruit is of fair quality, and when the vines are well pruned and cared for, the bunches are tolerably perfect, and bring a good price in the market.

“I have seen a vine of this variety, covering the north side of a building, loaded with fruit, well ripened by the 10th of September; it is to be admitted, however, that the fruit drops rather easily from the clusters.

“The Diana is a good grape here when well ripened, and keeps remarkably well, but is too late to ripen every year.

“The Rogers Hybrids are hardy and promise well, particularly Nos. 1, 4, 15 and 19.

“We still want a grape equal to the Catawba in size and quality, as hardy and productive as the Concord, and as early as the Hartford Prolific. A new variety with these requisites will be a great achievement.

“In the meantime, let us prove all things and hold fast to that which is good.”—*Horticulturist*.

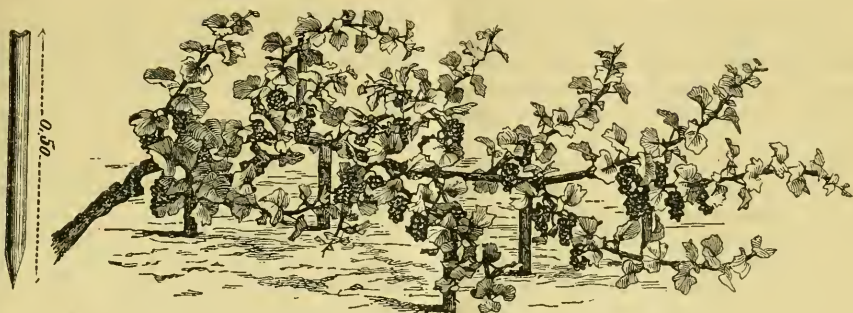


Fig. 1.—Trailing Chain, supported by wooden forks, at maturity.

TRAILING CHAIN CULTURE OF THE VINE.

We copy this article from the translation of the *St. Louis Journal of Agriculture*, and shall give our views about this new method at the conclusion of the article :

Thirty years ago there was inaugurated, in the central part of France, a new method of grape culture which bids fair to supersede, in many parts of that country, the system heretofore employed. It was invented by a poor vintner of the department of Loir-et-Cher, and for many years was quite unknown outside of his immediate neighborhood. The growing scarcity and consequent high price of farm help in France led first to its more extensive application, and the numerous and superior

advantages which it offers have gradually secured for it popular favor, and influential agricultural papers have warmly advocated its adoption.

The new method is called "trailing chain culture," a very apt expression to define its chief feature, which consists in training the vines flat-spread near the surface of the ground, their long branches trailing like chains.

Another striking feature is the large amount of space allotted to each vine. While in the old system the common practice is to have the rows about three feet apart, they are set in the new method eighteen to twenty feet apart, and the vines six feet from each other, the aim in view being to cultivate exclusively with the plow.



Fig. 2.—Vines in Trailing Chain, 1-50th natural size.

The following extracts are taken from a description of the new method embodied in a "Report on Grape Culture in N. W. France," addressed to the Minister of Agriculture, by Dr. Guyot, the celebrated Professor of Agronomy:

I have just been shown a new system of grape culture, invented by a poor vintner of Beaune. It is called "trailing chain culture." I have never seen anything more wonderful in its wild simplicity. Imagine every vine having three to five arms four to six yards in length, trailing near the ground; and each arm bearing three or four fruit branches four to six feet long (some nearly ten feet long—these fruit branches having nearly their full length preserved). Imagine now every one of these endless fruit branches overloaded with magnificent grape bunches, without interruption and of uniform color, in the perfection of maturity. Those branches are raised from the ground by means of small wooden forks, about eighteen inches high (Fig. 1), so as to prevent rot. Then imagine, intermixed with these fruit garlands, immense supplementary canes running among the bearing branches, and you will be startled as I was. And when you are told besides that after leaf falling, or before pruning, all these long arms are gathered up, and thrown over on the next row to allow full freedom to the plow, and then easily put back to their original position, you will admire the sound judgment and reasoning of that humble vintner who, in the face of traditional routine, contended and proved that the vine must grow in perfect freedom and acquire its full arborescent size to secure good fruit; that it must always stand near the ground to insure perfect maturity (the wines so obtained are highly prized), and that both these conditions, given the elasticity of limb in the vines could be made to reconcile with the necessity of a thorough, prompt, and economical tillage. And he proved also that his long fruit branches were the best safeguard against spring frosts. * * * *

The large amount of space between the rows affords the roots a free extension in the subsoil, so that those vines, which occupy about one-fifth of the ground, yield as much wine as will a surface five times larger where the

plants are set closer; and besides, the soil requires no manure, it being contended that the vines are far enough apart to be able to send their roots at greater distances without starving each other. * * * *

"The trailing chain culture is the highest expression of the whole philosophy of vegetation, of the longevity and fecundity of the grapevine. While it equals the dimensions obtained by the trellis culture, it has over it the immense advantage of being not only cheap, but relatively free from repairs. The vines can spread out unrestrained over the ground, which is kept perfectly clean by plowing, harrowing and rolling. It is the soil which in this case is their trellis, and which, reflecting the heat, gives a condition of perfection far superior to the insolation and exposure in mid air afforded by the trellis. * * *

The plow can work close to the vines, and leave almost nothing to be done by hand. The rule is to plow twice, as deep as possible; the surface roots or rootlets perishing every year, there is no danger to be apprehended in scouring deeply the intervals of the rows. It favors fruition and prevents 'running.' For this pur-

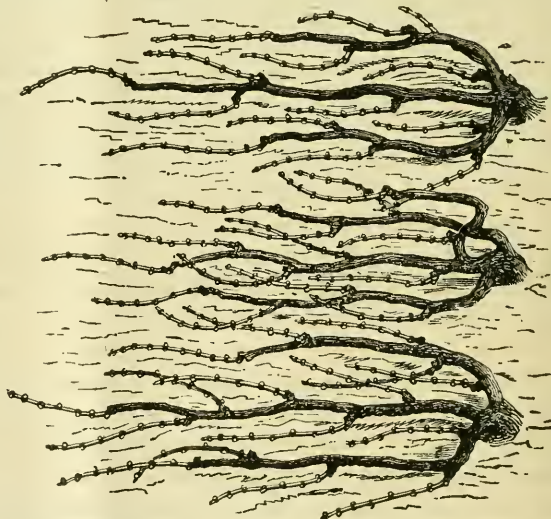


Fig. 3.—Vine in Trailing Chain, 6 ft. apart in the row.

pose the vines are gathered up, and the long arms thrown back temporarily on the next rows. * * * *

This mode of culture will demonstrate to any intelligent observer this great natural law, that to restrict the vegetable extension of the grape vine is to weaken it, to induce sterility

and to curtail its life. The more a tree grows, the more it produces buds, wood and fruit, until it has reached its limit of arborescence according to the soil and climate. Then it remains stationary—in the adult state—producing regularly the same wood and the same fruits for a long time—for centuries, perhaps—if the soil is propitious. But in whatever location, and all things being equal, generous pruning will always prove more remunerative than restrictive pruning. * * *

The soil, in the locality where the new method has best succeeded, is a rather poor quality of sandy clay, and ranges as third rate wheat land. On poor soil it will always succeed better than closely pruned vines, the size attained by the plants giving a corresponding strength to the roots. * * *

The chief points gained may be summed up as follows:

1. With the "trailing chain culture" the amount of labor has been reduced one-half.

2. The costly outlay of setting up and keeping in order trellises, stakes, or poles, is dispensed with.

3. Any intelligent farmer can master the whole system easily.

4. No special or peculiar implements are used; common farm instruments only are needed.

5. The distance between the rows affords to wagons, carts, etc., free access to every part of the vineyard, for all purposes.

6. The danger of spring frosts is hardly to be dreaded.

7. The yield is one-third and frequently one-half greater than with the old process.

* * * * *

The new system is being extensively followed wherever known; and large numbers of French vintners not only set out their new vineyards on this plan, but have the old ones remodeled, by pulling up three rows out of every four, so as to have about 16 feet between the remaining rows. This speaks volumes in favor of the "trailing chain," when we consider the price of land and the long standing of the old system in France. * * * *

THE CHEMISTRY OF WINE.

By CHAS. H. FRINGS.

(Continued.)

These peculiar flavors, however, are not *indispensable* ingredients of wine, but only *characterize* certain varieties of wine; but the *general* flavors are indispensable, and those liquids which are without them cannot be called *wine*.

The juice of all varieties of grapes and fruit will develop these *general* flavors during fermentation, by the influence of stearic acid on the alcoholic properties of the fruit or its juice, and the appearance of the so-called Oenanth ether. These stearic acids are contained in the wax-like coating of the skin of berries and fruits, which give them that peculiar gloss we so much admire.

Those ingredients which are the cause of *aroma* in wines, will be more strongly developed in *fully ripened* than in imperfectly ripened fruit. The riper the fruit the more aromatic will the wine become. They are generally etheric oils; while those substances which develop *bouquet* are generally contained in larger proportions in *unripe* fruit, and mostly consist of those organic acids which are either already contained in the juice of the fruit, or are developed during spirituous fermentation, and thus form manifold etheric flavors.

The effects of those substances which develop *bouquet*, are manifold and dif-

ferent. Some of them appear only when a considerable amount of alcohol has already been developed, and others already appear in the first stages of fermentation, when but a small amount of alcohol has been formed. This is the cause that varieties of fruit which generally develop a great deal of *bouquet*, will develop but a small amount if the must or juice contains but little sugar, and consequently develops but little alcohol during fermentation.

It is difficult, sometimes, to make the distinction between *aromatic* and *bouquet* wines, as some wines contain both. We shall try to illustrate this by a few examples, as follows:

Wines made of the German Muscatell grape, from raspberries, etc., are, generally speaking, *aromatic* wines, which but very seldom also have *bouquet*. Raspberry wine especially will retain the full flavor of the fruit for several years.

An interesting example of the opposite class is furnished us by wine made

of strawberries, for although the aroma of strawberries would appear as strong in the *fruit* as that of the raspberry, yet most of the varieties of strawberries make a *bouquet* wine. The aroma of this fruit is of such a character that it changes entirely during fermentation, and hardly a trace of the strawberry flavor remains. The *aroma* of the fruit has disappeared, and *bouquet* has been developed in its place.

Gooseberries furnish a wine without *bouquet*, if the must contains less than 20° of sugar; if the amount of sugar is increased to 25°, however, a strong bouquet is developed.

A yet more striking illustration we find in the wine of the Morello cherry. This fruit, which is entirely without flavor in its fresh state, will make, even when not fully ripe, a wine of remarkably strong *bouquet*. We will now see of what use these remarks will be to us when we come to make wine from American grapes.

(To be continued.)

GROWING GRAPE CUTTINGS.

FRIEND HUSMANN:—In the last number of the *Grape Culturist* you published an article—an essay read before the Northeast Missouri Horticultural Society at a meeting of theirs.

Leaving all else out of the question, I cannot refrain from making some remarks upon his mode of growing vines from cuttings.

'Tis true he acknowledges that plants from cuttings are simply ridiculous; and I don't wonder, when

grown as he advises in the first place, and the second plan is not much better.

To the initiated it will only create a smile, while to the beginner who knows no better, it will no doubt be looked upon as a marvelous piece of information. Some one who has the means will no doubt try the stewing process, and, three chances to one, will make a complete botch of it.

The way we propagate cuttings here it would require us to charter a

cotton mill for a while to supply the muslin; for the Bluffton Wine Company have this season set out two hundred and fifty thousand cuttings, Covering upwards of three acres. They look exceedingly well thus far.

The mode I have practiced for myself, and also when in charge of said company's affairs, was to dress the cuttings in the fall and winter, tie them in bundles of 250 each, bury them in sand (butts down), covered so as out of reach of frost. Leave them there until the ground becomes dry enough in the spring—the earlier this can be done the better. They are then planted either straight upright or at an angle of about 45° , leaving the upper eye about even with the surface of the ground. After that, with clean thorough cultivation, and anything like a fair season, you can count on from 50 to 90 per cent. growing.

As to such plants being ridiculous,

we would here state (and many of your readers have seen them): That, in 1867, at least 85 per cent. of the cuttings we put out grew, and the second class were few in number, compared with the quantity grown.

When vines have from one to three feet of sound, ripe wood, with roots a yard and more long, and plenty of them, they are, in our opinion, equal, if not superior, to what they call No. 1 layers.

It may sound somewhat severe to find so much fault with the communication referred to, and that your comments would have been sufficient; but, in my humble opinion, you touched it too lightly, and it might mislead and cause unnecessary trouble and expense to some who would try his plan. Simplicity is what we want, and not a finely got up, complicated contrivance.

Yours, respectfully, S. M.
Bluffton, Mo., June 19, 1869.

ROCK CANDY AND NATIVE WINES.

I see it repeated in the last issue of the *Southern Farmer* that large quantities of rock candy were used by Mr. Longworth in the manufacture of native wines; at least that numerous boxes marked "rock candy" were seen about his establishment, from which the inference is left to be drawn that sugar, in some form, was necessary to the manufacture of native wines in Ohio. I think I can explain that. Some twelve or fourteen years ago, being much interested in the subject of native wine, I paid several visits to Cincinnati, then the center of the wine growing region, and formed the ac-

quaintance of Messrs. Longworth, Buchanan, and others engaged in the business. I became satisfied, from statements of gentlemen of unimpeachable honor, that the best *still* Catawba could be, and was, made of the must of the grapes without the addition of either sugar or alcohol. This I afterward verified by actual experience at my vineyard near Wartrace, in Tennessee. I made wine of high merit, a specimen of a dozen bottles of which was exhibited at the National Fair at Louisville in 1857, and obtained the diploma for the best Catawba one year old. Not the fraction of an ounce of any sub-

stance whatever was added to this wine in any stage of the process. It was entirely pure and sound. I did not test its keeping qualities, as it was in high demand, and soon consumed by my guests, or sold to friends in Nashville. The credit of it is due to a German vigneron named John Zimmerman, who lived with me three years.

I hope it will be understood that I allude to this trifle merely to establish the veracity of the Ohio viticulturists in saying that good Catawba grapes do not need sugar nor spirits. Since that time other varieties have been found equally strong in saccharine matter, or indeed stronger, from which wines are constantly made without aid of foreign matter.

These constitute the wine grapes proper, and this kind of wine is the standard of excellence at which all should aim.

But sugar *is* nevertheless used to a very great extent. We may suspect that gallizing is far more practiced than acknowledged. Some, like Mr. Husmann, acknowledge and defend it; others denounce and practice it. Some refuse to sanction it by word or deed. I do not wish here to enter into the question of its propriety. I may be allowed the opinion, however, that gallized wines are far better than no wines at all, and where, from bad seasons, the must is defective, it is far better to assist nature than to throw the must away, or distil it into alcohol, or convert it to vinegar. There is nothing unwholesome in sugar, nor pure alcohol, in limited quantities. But I contend that pure wines are possible, and plentifully produced; and that they are better than

gallized wines, and should be aimed at by viticulturists, mainly if not exclusively, and that the distinction between pure (in the sense of being unaided) and gallized wines should be kept up, so that men may know what they are buying or drinking.

To return to Mr. Longworth. At the time of your visit he was extensively engaged in the manufacture of sparkling Catawba, which is confessedly a manufactured wine. It was never pretended that it was pure. Rock candy is the principal addition, an innocent substance enough, and absolutely necessary to reconcile the American palate to native wines at all. They would not have been introduced, outside the German and French population, without it. Americans, inheriting the English taste for the heavy, sweetish wines of the South of Europe, would never have taken to dry catawba unsweetened. The taste for pure wine must be educated. Hence, Mr. Longworth and other early wine makers were driven to the manufacture of sparkling wines, with rock candy. Hence, the boxes. They prove nothing with regard to the purity or impurity of still catawba, or wine proper. All sparkling wines are artificial combinations of pure wine, sugar and gasses. If you will allow me the indulgence of a prejudice, they are simply abominations for a healthy wine drinker. But if, by deluding our people into the idea that they had something as good as their favorite champagne (which, by the way, is a grand mistake) they have gradually paved the way for the still, dry wines, they may have served a valuable end.

I hope you will understand that I make no objection to the use of sugar in the must where required. It makes a wholesome drink, the use of which should be encouraged. If the cultivation of the scuppernong will place such a beverage upon the table of every man in the country every day in the year, distilled liquors will come to be sold only as a medicine; and the benefits to the health, morals and business of the country will be incalculable. The scuppernong is all that its friends claim for it in the abstract. It is healthy, and immensely productive, and makes a good wine with sugar or spirits—a wine which a man may enjoy and desire to have plentifully. But why claim supereminence for it comparatively? or, in advocacy of it, detract from the merits of the wine grapes proper? Let each and all have their proper places. Let us have *all sorts* of grapes, and *all sorts* of beautiful drinks, to drive from our social life the curse of debauchery—for men will drink together something, and ought to. But let us keep in view the distinction between pure and gallized wines, and aim at the highest in our future experiments while cultivating and enjoying the others. And, so I may say with all my heart, success to the scuppernong.

Respectfully yours,

JOHN R. EAKIN.

WASHINGTON, ARK., January 24, 1859.

[We clip the above very sensible article from the *Southern Farmer*; but while we acknowledge its sensibility, from the author's stand point, we can not agree with him in *all* he asserts. That Mr. Longworth may have made only so called *pure still* wines, we

readily believe. But at the same time, he also made sparkling wine, and those very people who drink and laud the sparkling are, by a strange perversity of nature, most effectually (or ineffectually) down on gallizing, and call it adulteration. Do they never consider that their favorite sparkling contains sugar *added by the manufacturer*, consequently *not produced in the grape*, to a much larger extent than those do who gallize still wines? Besides, sparkling wine contains carbonic acid gas, developed by an *unnatural process*. O Simon Pure Naturalist, where is thy consistency!

That friend Eakin has made Catawba wine of fine quality without the addition of sugar or water, and that it took the premium at the Louisville Fair, we can and do believe. We have made such, and have taken first premiums with it. But we have taken more first premiums with gallized Catawba, and we venture to assert, that American wine making since that time (1857) has immeasurably improved, and that wines which took first premiums then, would not do so now. The Catawba has some of the inherent qualities of a fine wine grape, but mixed up with them are so many disagreeable ones, which must be tempered and toned down by the addition of water and sugar to the must, that we here assert, as our honest conviction based upon long practice and experience, that *no pure juice* Catawba, of the very best vintages, can be as *good* or *palatable* as a Catawba *properly* gallized. Let any unbiased person but take a berry of the Catawba when fully ripe, and eat it, what does he find? The first

taste is pleasing, sweet, and delightful ; but let him press the skin a little harder, and he will get a taste as of fresh tan-bark, which will draw his tongue together. It contains too much tannin and acid, very good ingredients, which are necessary in every wine, but which, when present in it to *excess*, become disagreeable and unwholesome. For the purpose of harmonizing and toning down these discrepancies, God has given us our reason, and we, for one, are going to use it.

Our friend further asserts, that it is a grand mistake that our sparkling wines are as good as their favorite Champagne. We trust that we have, as a nation, also progressed in the manufacture of sparkling wines, and we can boldly and safely assert, that the *majority* of our sparkling wines are *better* than the *majority* of imported Champagne. And it is here where the superiority of gallized wines will again manifest itself. They will make a much smoother and more delicate sparkling than the so called *pure juice wines*.

That all the best and most skillful wine makers, of Europe and of Amer-

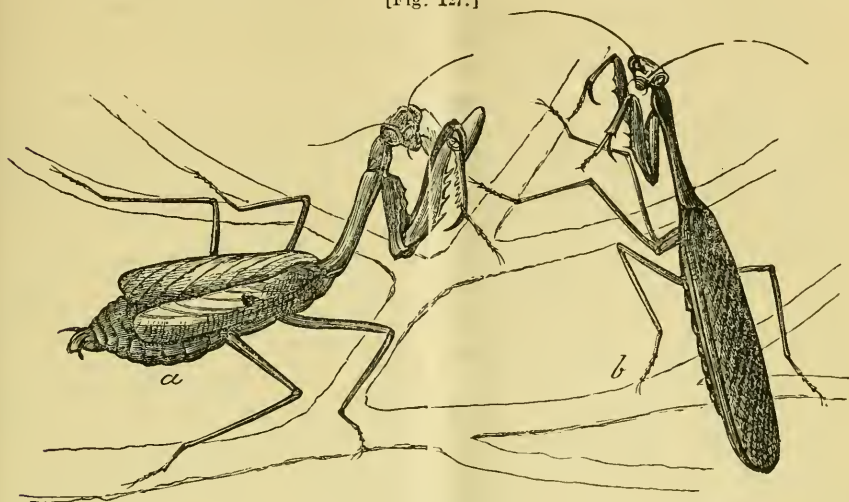
ica, now follow Dr. Gall's method, (*with moderations* and alterations, of course,) is a *fact* which patient and thorough researches have enabled us to establish without fear of successful contradiction. That many of them still keep it secret, after denying it in public, when they follow it in private, is a lamentable, but nevertheless true, fact. We have established this Journal for the purpose of collecting the best information and experience from all parts of the country, and we feel that so important a subject can not be excluded from its columns. We shall be glad to have the other side discussed, and request our friends to do so, always with that courtesy and kindly feeling which an honest difference of opinion should command. We think that wine if good "needs no bush," neither to hide it nor to advertise it, and that the *quality* should rule, not the way in which it was made. If it is pleasant to the palate, and leaves no bad effects, if it acts as a gentle stimulant, inspiriting and invigorating : in short, if it is *pleasant* and *healthy*, it is *good*, no matter how made, whether gallized or so called pure grape juice.—[ED.]

WE must ask pardon of our readers, and also of our contributors, for the omission of several valuable contributions, which were crowded out of this number. We try to give such matter each month as seems to us to be most timely and pressing, and among these we count the queries of our correspondents, contained in the "Letter Box." We are glad to see the lively interest manifested ; it cheers us on in our

editorial duties, and *all* of our correspondents and contributors may rest assured that their communications are *always welcome*, and our readers will have the full benefit thereof as speedily as possible.—EDITOR.

THE continuation of "Causes of Failure in Grape Culture" our readers will find in the August number. Our valued correspondent was prevented from furnishing his manuscript in time.—ED.

[Fig. 127.]



Colors — (a) green; (b) brown.

REAR-HORSES vs. GRASSHOPPERS.

General Engelmann, of St. Clair county, Southern Illinois, has found by experience, that the best way to

[Fig. 128.]



get rid of the grasshoppers in a vineyard is to raise Rear-horses there, which are also known as Devil's-horses, *alias* Praying Nuns, *alias* Intelligence Bugs, *alias* Devil's Riding horses, but the correct English name of which is "Camel-cricket." Figure 127 gives a very good view of the sexes of this insect, *b* representing the male and *a* the female. The female has such short wings that she is incapable of flight; but the male flies as read-

ily and as strongly as an ordinary grasshopper. The General's mode of colonizing this insect in his vineyard is, to collect the masses of eggs in the dead of the year and place them upon grapevines. Figure 128 will enable the reader to recognize these singular egg-masses whenever he may happen to meet with them. Persons are very generally ignorant of their real nature, and on the principle that "Everything that is unknown must be something hateful and destructive," are apt to cut them off and throw them into the fire. They should under no circumstances be destroyed. As a general rule Camel-cricket are only found in the central and southern parts of Missouri, in the southern part of Illinois, and in other southerly regions. But Mr. D. B. Wier is domesticating them at Lacon on the Illinois river, and on one occasion one of their egg-masses was found as far north as Lee county, northern Illinois. We are inclined to believe that, with a little care and attention they may be acclimated at points farther north than these. — *Amer. Entomologist for May.*

CAN GRAPE GROWING BE OVERDONE?

BY THE EDITOR.

We have often heard the remark made: "There are so many entering into grape growing, so many acres of vines planted every year, that it will be overdone in a short time, our markets will be glutted with grapes, and people will not drink and consume half of our wine." This would be, indeed, a serious drawback, had it any foundation in reality. Before we advise our readers to go on and plant grapes largely, we should determine this question, and see whether or no there is any cause for alarm. We think not, and will give our reasons why we think so.

1st. We contend that the population of this vast country can and will consume twenty times the amount of grapes in a fresh state which is consumed now. Enable them to buy grapes at the fruit stands, at from 5 to 6 cents per pound, bring them within the reach of every poor laborer, to take home to his fruit hungry little ones, and our word for it, it will take an army of grape growers to supply the demand. Let us remember the fact, that Concord grapes at 4 cents per pound, are still a more remunerative crop than almost any other farm produce; that at this price even, and taking the lowest average yield, they will pay \$250 per acre, and no one can imagine the increase of their consumption. They must become an article of daily diet in our families, not the costly luxury they have been until now; and they will be so before long, we trust.

2d. The consumption of *wine* can and will become immeasurably greater than it is now, as soon as the price is sufficiently reduced. Let the laborer be enabled to purchase a good, light wine by the keg at, say \$1 per gallon, and millions will drink wine daily, who are now drinking beer, or worse still, whisky and brandy. They will find it cheaper and more beneficial to their system than any of these; and hundreds, nay thousands of gallons of wine will be used to every one that is drank now. An immense amount will then be used for home consumption, an amount, of which but few really have a faint conception yet.

3d. We will become *exporters* of wine in a few years instead of *importers*. Our Nortons Virginia has already made its mark in Europe, although we have but in a few instances learnt to bring it to its full perfection. Wine connoisseurs say there is no better red wine on the face of the globe than our Cynthiana. We have drank white wines equal, if not superior, to the best imported, and if we can export grain, cotton, and other products, why not *wine*, as soon as it is *good enough*, and we raise enough of it to make the necessity for seeking a market, and creating a demand for it.

We need not therefore fear that we shall glut and overstock the market, either with grapes or wine. But a few rules must be observed to meet all requirements which may be made

by the buyers. We must bring our grapes and our wines into the market in the best possible condition. Our grapes must be carefully handled, well packed, and be brought to market as fresh as possible, and as cheap as possible. We must have an abundance for *every* demand; we must be able to furnish such every day kinds as Concord, Hartford Prolific, etc., cheap enough and abundant enough for every laborer's family; and we must also furnish the very best in quality for the dainty epicure. We must furnish the Herbemont, the Delaware, Clara, and varieties even better than they, which we have yet to find from our "generations to come" of seedlings. We can not, of course, furnish these at the same prices, but those who are able to buy them will not begrudge high prices, if the grapes are good enough.

It is the same with our wines. We must learn to make *all* wines good and palatable, and the market will come easy enough. We cannot, of course, make a wine from the Concord equal to the Cynthiana, Herbemont, or Delaware, but it can be made so as to excel all the cheap French Clarets or light white wines, and we can make quantity enough of it to supply the masses with a cheap and wholesome beverage. And for the epicure we can make wine just as well that he can buy at \$30 to \$50 per case, as the "far fetched and dearly bought" wines of France, Burgundy, and Germany. Nay, we can even undersell them by \$10 per case, and yet make large profits.

The further discussion of this subject, and our views about the ways and means to do this, we will reserve for the next number.

EDITORS' LETTER BOX.

PERRYVILLE, PERRY CO., Mo., May 1, 1869.

MR. EDITOR: *Dear Sir*—Two years ago I received about 400 grape roots, of different varieties, from you; they promise this year a very fair crop for their age (the third year). Among them were 100 Cassady, and I am sorry that I did not know at that time the right place (the north side) to plant them. As a *Labrusca*, I planted them on a limestone hill sloping to south and north; on the latter side they grew vigorous, on the south side the foliage scorches badly, but those rows which are shaded by the adjoining Concord vines are doing first-rate; they show this year plenty of forms.

About Cunningham, Herbemont, etc., I will report this fall, if it is of interest to you to hear something from Southeast Missouri, a country entirely different in soil from Hermann. In our deep, red, porous subsoil, the Delaware grows nearly as vigorous as the Virginia Seedling, drops its leaves about one week earlier than the Concord, and in the fourth year I was compelled to train my vines on the lateral system for fruit canes. On the other hand I am not well pleased with the Concord. My first plantation was on a somewhat low hill, fronting to east, well opened to south and north; trenched the

ground by spading two feet, although second bottom land. I manured with an old pile of leached ashes, and what seems to do well for Virginia Seedling and Delaware, applies not to most of the Labruscas in this place. My Concord grapes rotted last year considerably, although bunches and berries were of enormous size.

The Concord vines I received from you were planted on a high limestone hill, open to south and east. With the most ordinary treatment they made a very healthy growth, and produced some fruit the second year; and this year fruit and wood far outdo my two years older vines.

In the last *Grape Culturist* a Mr. Smith, from Pekin, Ills., seems to be inclined to lose money by propagating Virginia Seedling by cuttings, which will be a sure failure, the way he intends to operate. I tried a method to grow Virginia cuttings in the open air with success. This is the *modus operandi*, which may apply to Cythiana and the similar kinds:

Make your cuttings, as soon as the leaves are dropped in fall, *at least 18 inches long*, burying in the ground over winter, in the manner Mr. Sam. Miller described in your paper. Select a well shaded place in the woods, naturally moist, *not wet*, beneath one of our giant oaks; prepare the ground two feet deep before winter; in spring plant out to the depth that the top bud is level or a little below the surface, then shade the whole bed in the following manner: Put forks, made from little saplings, every eight or ten feet in the ground, lay sticks in them, cover with oak brush (which have at that time yet their leaves and

will keep them) rather thickly, and if you stick or pile some brush on the south side, where the hot, mid-day sun can shine under this brush roof, you will not lose 20 per cent. of your cuttings, provided you selected the perfectly ripened, gray-bluish looking, moderately sized wood. I made the trial with 200 cuttings, and would have been glad to have had five years ago *such* roots from that tree peddler who sold me poor roots for fifty cents a piece. They are convenient to water under this roof; but I did not water, and I got extra-fine and strong plants. Respectfully yours,

DR. N. HORN.

[We must all learn by experience. Three or four years ago we did not know yet that the Cassady required a northern slope. We are of course glad to hear from your section, and are glad to find your report, in the main, a favorable one. If the Delaware does well with you, plant it by all means. There are few grapes better or more profitable, *where it will succeed*. You overdid the thing in manuring the Concord in the rich soil you speak of. The Labruscas generally are not gross feeders, and do better on moderately rich soil. You can not very easily make it too rich for the Norton or Delaware.

We have but one objection to your mode of raising plants from cuttings: you make them too long. You would make better plants if you made your cuttings nine inches, and put them down perpendicular. Try it.]—ED.

Will it hurt grape vines to trim them late, so that they will bleed much. I talked with several 'Gor-

mans who say bleeding will not hurt the grape vine, that in Germany they prune all through spring. Please inform through your Journal; and also learn us how to make wine through your paper.

S. S. BOTTENFIELD.

[You will find reply in June number, on page 172.]—ED.

EDGEWOOD, ILLS., MAY 2, 1869.

Mr. Editor: Will you please give me some information about training grape vines to three stakes, the stakes tied together at the top and spread at the bottom. I have heard that it is coming into general practice in Ohio and in the southern part of this State (Ills.); please let me know how to train them, and its merits, and what you think of the plan.

Respectfully yours,

E. A. HEGEMAN.

[If you wish to encourage rot and mildew in your grapes, you could not design a better plan than this *tripod* system. The leaves and fruit are all crowded together in the middle of this tripod, presenting an impenetrable mass of foliage and fruit, which is enough to dampen off the fruit of the most healthy kinds. One of our neighbors followed it fifteen years ago, and always got only one-third of the crop, on his Catawbas trained in this manner, than he could get from vines of the same variety trained on trellis. Of all the modes of training for strong growing varieties, we still prefer the fan shape, on three horizontal wires, as *cheapest* and *best*.]—ED.

WOODBIDGE, San Joaquin Co., Cal., }
May 13, 1869.

MESSRS. HUMANN & FRINGS:

Gentlemen: I am a tyro in wine making, and would feel obliged, if it is not putting you to too much trouble, if you would answer the following questions:

1. What is the most effective and economical machine for crushing the grape *in large quantities*, and, at the same time, completely separating the berries from the stalk or comb.

2. In Appleton's edition (1860), of "Ure's Dictionary of Arts, Manufactures, and Mines," vol. 2, page 87, there is an account of a cask-making machine in England, by which the largest casks can be made from the raw material in five minutes! Do you know of any machine of that character in operation in the United States?

3. Where can one find the fullest and most reliable account of the details of the manufacture of PORT WINE, as practiced on the Douro in Portugal, together with some information respecting the varieties of the grape used, and the geological character of the most esteemed soils?

Hoping to hear from you shortly, permit me to remain

Very respectfully yours,

HENRY ADLAM.

[There are many machines for crushing the berries speedily and effectually. A pair of wooden rollers, one foot in diameter, running against each other, which can be set by screws or wedges to any required width, answer the purpose. Stone rollers are better still, and a very good mill for that purpose is made by Geiss &

Brosius, Belleville, Ill. It will crush 1,000 bushels of grapes within twelve hours. We do not think the separation from the stem an advantage, on the contrary, we think the slight amount of tannin from them a benefit to the wine.

Q. 2. We know of no cask-making machine that would be likely to work as quickly as you say. All the large casks are made by hand as far as we know.

Q. 3. Will be answered in a future number.]—ED.

COVINGTON, GA., May 22, 1869.

GEO. HUSMANN, ESQ. :

Dear Sir:—I would be under many obligations if you would induce some of your grape friends to send me a small amount of *pollen*, of either Nortons, Virginia, the Delaware, or any grape containing a large per cent. of sugar and acid (especially sugar), for the purpose of hybridizing the Scuppernong. The highest specific gravity I have ever obtained is 0.72, acid, 0.04. The inflorescence of the Scuppernong (here) is from the 10th to the 25th of June; this spring being backward, will probably be from seven to ten days later.

Any expense that may be incurred will be refunded by mail by informing me of the amount. I suppose the best mode of transportation will be by mail. Wishing you every success, I remain
Yours, truly,

A. C. COOK.

[We fear it would not do to send the pollen so far. Have never heard of crossing (or hybridizing, we suppose it would be in this case,) the Scuppernong with the Aestivalis.

They are so entirely distinct in wood, growth and foliage, that we have sometimes doubted whether the Scuppernong was really a *grape*.

Your testimony but confirms what we always believed, viz: That the Scuppernong did not contain sugar enough *in itself* to make a wine that would keep.

Sorry your letter was delayed. It will be too late now to make the attempt. We will try, however, if we can yet find pollen for you and send it.]—ED.

HILLSBORO, Ill., May 24, 1869.

GEORGE HUSMANN, ESQ. :

Dear Sir: Please to inform me through the columns of your valuable periodical whether you have tried the Buck or Stool method of training, or whether any of your neighbors have, and with what success. I believe that the idea expressed by you in your book, that it will not answer for our strong growing kinds is correct, but should think that it was admirably suited to the habits of the Delaware.

During my stay in Germany in 1867, I saw that this method is now generally adopted in lower Austria around Vöslau, Baden, Gumboldskirchen, and other places near Vienna. It is also largely introduced by Rhenish vignerons, when quality, not quantity, is their aim.

With slow growing varieties it seems to me to be easier managed than the bow system, and cheaper than the trellis, needing but one stake to a vine and but one tying.

Yours truly,

FRED. NOTERMAN.

[We do not know that the buck or

stool method has been tried in this country. We think, however, that it would answer with the Delaware and Alvey.

For the information of our readers who may not be acquainted with the method referred to, we will describe it here: The object is to form a bush or low tree of the vine; for this purpose but one strong shoot is left to each vine, and this is cut back, in pruning, to a foot or eighteen inches, sometimes two feet above the ground. The lower laterals are all taken off, and but two or three of the upper ones left, which, at the next pruning, are cut to spurs of two eyes each. The shoots which these produce are cut back to spurs again, so that an old vine, trained in this manner, presents the shape of a round-headed tree or bush. In some districts they receive one stake each, to which all the shoots are tied by a band of straw passed around them; in others, especially in Mexico and California, where this method is practiced a good deal, they are allowed to hang down loosely.]—Ed.

SEDALIA, Mo., May 24, 1869.

MR. GEORGE HUSMANN:

Dear Sir—You will recollect selling to me grapevines last fall, and among the lot was fifty Delawares. These I planted in a piece of ground, in my judgment best suited to their habits. If these Delawares do well in the future, I will fill up the piece of land with them, and would like to do so this fall. Now, what I wish to know of you is this: Can you predict their future success from this year's growth? and if so, what do you found your

predictions upon? This is a question I would like to settle in advance, so that I can prepare the ground in time. Every one of the fifty Delawares was growing fine on the 10th inst. Some had leaves as large as a dollar at that time. Most of the Herbemonts I fear are winter killed; at least but few showed any signs of animation, yet they seem to have life in the roots. Will these, do you think, sprout from this depth? The Concords are about all living, and some had grown six inches. Nortons were all alive and grew as fine as the Concords. Maxatawney and Rogers living.

I am very much pleased with your *Grape Culturist*, and hope you will have large success.

Yours, truly, J. B. McGISK.

[We cannot help you out of your difficulty. We cannot tell the first summer whether a variety of grapes will do in a certain soil. If your soil is porous and very rich, and your vines grow very vigorously without a sign of disease on the leaf, you may reasonably infer that they will succeed, especially if they retain their leaves fresh and green until frost. But it will take three to four years to fully settle the question of their adaptability to your soil. The Herbemonts will doubtless sprout from below. You should have drawn the earth up around your vines last fall, and they would not have suffered.]—Ed.

ABINGDON, VA., June 7, 1869.

MR. GEORGE HUSMANN:

Dear Sir—I am desirous of starting a *vineyard*. I have but little experience in the *culture* of the *Grape*. Knowing that you live near the

geographical center of American grape culture, I write to ask your aid in procuring me a man of practical experience, to aid me in the undertaking I have proposed for myself. I am aware that the climate and soil of the United States is so varied that the experience of the grape culturist, must necessarily differ greatly. But, from the little I have gathered from you, and the experience of your special contributors to your Monthly Journal, I am inclined to believe that the climate and soil of South-western Virginia (Washington county) differ but little from your own. Wherefore I write to you, begging your kind assistance in the hiring of a man of practical experience, who can take charge of, and manage a vineyard. I would prefer a married man; and, if married, one with a small family. Will you have the goodness to write me if such an individual can be had? what wages I will be compelled to give him?

I would much prefer giving a vineyardist an interest, just such as you think it really worth. If the person prefers, I will give him one or two hundred acres of land, say with a cabin and fifteen or twenty acres already cleared. Upon this he could put some friend of his who could start a vineyard for himself. Your early attention will greatly oblige

Most respectfully,

NEWTON K. WHITE.

P. S. We have nothing but the Catawba and Isabella in this country, and when exposed to the sun and air they are liable to mildew and sunburn. Be pleased to recommend the most desirable qualities, and what are the prices with you? Resp'y, N. K. W.

[We give your offer publicity in our columns, considering this the most likely way in which you may obtain the man you want. We know of no one whom we could recommend at present.

We think you are mistaken, however, in offering one or two hundred acres of land to a *grape grower*. Twenty acres are all he would need. It is a mistaken idea to connect farming, to any extent at least, with grape growing. The operations of one will continually interfere with those of the other, and either the vineyard or the farm will be neglected. We have seen this too often verified by example, and a *neglected* and *slovenly* vineyard is *never* a *profitable* one.

We would advise you to try Norton's, Cynthiana, Concord, Herbemont, Cunningham, Rulander and Louisiana. We cannot, of course, advise *knowingly*, testing must determine *that* question.]—ED.

LITTLE ROCK, ARK., May 17th, 1869.

GEORGE HUSMANN, ESQ.:

Dear Sir—I hope you will pardon me for inquiring of you why I did not receive the May number of the *Grape Culturist*. I have very patiently awaited its arrival, up to date, but in vain. Feeling a deep interest in all matters concerning the culture of the noble grape, I miss, therefore, the *Grape Culturist* so much more than any other journal.

Now, Mr. Editor, having made inquiry about my missing "pet," permit me to have a little chat with you about our State, soil, etc., and the prospects in succeeding in organizing a grape growing fraternity here. So

far as my own experience in grape culture is concerned, I must say that I have experimented in different parts of the United States, but have never found soil and climate so well adapted to the culture of the grape, as here in this part of Arkansas. The soil of our hills is mostly derived from sandstone, lime and slate, and is easily cultivated. The principal growth of timber on the highlands consists of white, red and black Oak, Hickory and Gum (intermingled in some parts with Pine, but this is very seldom the case). The grape, particularly the *Aestivalis* family, you find everywhere, and of the most luxuriant growth. By visiting some parts of Arkansas you would almost fancy you were in some Italian vineyard; great black and white grapes, of most luxuriant growth, cover trees and hillsides, and luscious clusters hang everywhere in profusion. This is our Lord's own vineyard.

I have noticed particularly one vine resembling much the *Cynthiana* grape—at least the description I found of the same in the January number of the *Grape Culturist*. I am fully convinced that we can cultivate the following varieties with great success: Herbemont, Devereaux, Norton's Virginia, and others of the same family.

I visited a friend of mine a few days ago, who is also a warm friend and great admirer of the grape, and has planted 900 vines, mostly Ives' seedling, Norton's Virginia, Concord and Hartford Prolific. I found his little vineyard in excellent condition, promising a fine crop this season. The vines are now four years old, and of

luxuriant growth. I found the vines mostly in full bloom, some few already past. It was a beautiful sight; and to me a plain proof of what can be done here in the way of grape growing. Lands suitable for vineyards can be purchased for almost nothing, as all those beautiful hills have been so far entirely valueless to the planter, and can be purchased for one to three dollars per acre, convenient to river and market.

I made efforts to organize a company for the purpose of introducing the culture of the grape, but have a great many difficulties to overcome yet. People here have little energy and enterprise. A few responded to my call, and those are mostly men of foreign or eastern origin. I shall not give up. If I cannot come out very formidable, I shall try it on a small scale, and hope to send you an order for some of your vines next fall, as I intend to plant at least from five to ten acres.

Hoping that you will excuse me for taking up so much of your valuable time, I remain

Yours, respectfully,

THEO. JACOBI.

[We trust you are in receipt of all the missing numbers by this time. We have immediately mailed them.

We have never doubted, from what we have heard, that a large proportion of your State is splendidly adapted to grape growing. The *Cynthiana*, as far as we can trace it, came from there; also the Arkansas, a variety of the same class.

If you could send to us next fall a few scions of varieties of wild grapes which you think especially promising,

we would like to test them here, and shall be pleased to return the favor with what you may wish from our collection.

Your State certainly offers great inducements to grape growers, and we trust that your efforts to form a society for that purpose may be successful. Please let us hear from you again.]—ED.

SUTHERLAND SPRINGS, WILSON CO., TEXAS, }
May 22d, 1869. }

GEO. HUSMANN, ESQ.:

Sir—In my searching and reading I find your name favorably mentioned as a "vineyardist," and am induced to address you. I have recently determined to turn my attention to the raising of fruit, and particularly to grapes; and if I can succeed in procuring an assortment of vines, adapted to our soil and climate, I wish to plant a vineyard. I hope you will pardon the intrusion I make in inflicting you with this hastily written scrawl, and if convenient, and not in opposition to your disposition and habits, favor me with a list of vines that you think will best suit our latitude (about 29° north), with some remarks as to the proper manner of propagating, pruning, etc. I am too limited in my resources to procure any large number of rooted vines at once, and will be driven or compelled to procure a stock from wood or cuttings, and would be gratified to know if I can procure from you cuttings from such vines as you think best suited to the vineyard with us, and in what number, and upon what terms I can get them. Your attention to this will be thankfully received.

Respectfully, your ob't serv't,

A. G. PICKETT.

[You will find your inquiries answered in the former numbers of the GRAPE CULTURIST, which we send you. We would advise you to try a few rooted vines instead of cuttings.]—ED.

LEES SUMMIT, MO., June 7, 1869.

EDITORS GRAPE CULTURIST:

I am trying to raise a few grapevines, and desire to increase the number from what I have. Do not wish to do so by layering, as it is said to be injurious to bearing vines. But having had poor success with cuttings, am induced to ask wherein I fail. Previous trials not being satisfactory (and supposing I had gathered some information from the books), concluded to take more pains this spring. My three-year old vines were pinched back September 1st; trimmed in February; the canes cut to three buds, and buried in rather dry earth and covered over with boards to prevent too much wet; prepared ground the last week in April, by digging a trench 15 inches in depth, placing the soil all on one side; pulverized the ridge so formed, and set the cuttings along the slope, filling the trench with old straw to retain the moisture. The cuttings looked fresh with buds—some swollen when set. At this date very few show signs of life. How can I do any better another time?

Respectfully, J. L. RICE.

[You can do better, we trust, by following the directions as given in February number, and save a great deal of unnecessary labor besides.]—ED.

WALLA WALLA CITY, W. T., June 7, 1869.

The season for hybridizing the grape is about past now, as most of the early varieties are as large as buckshot;

some of the later, however, are just now in bloom. How does this compare with your season and country?

A. B. ROBERTS.

[All the varieties have bloomed here (Bluffton, June 27,) except the Herbemont, Cunningham, Rulander and Louisiana. The Marion was the earliest in bloom, about three weeks ago; then came Huntingdon, Taylor and Clinton. They are now as large as buckshot. It seems you are about two weeks earlier than we are here.]-Ed.

CATAWISSA, LA., April 13, 1869.

Dear Sir: I send you to-day a one year vine of the Paxton Grape of my own raising. I have fruited it now six years. It is as rugged as Hartford, and is the best cropper I have ever grown; bunch and berry large, holds its fruit finely, colors with Hartford, but does not ripen as soon. If the vine reaches you in good condition, I am certain you will get fruit in 1870. Let the fruit hang on, at least some of it, until the middle or last of October, and please let me hear from you when you have tested it.

Respectfully yours,

F. F. MERCERON.

[Vine received in good order, and we shall report on the Paxton as soon as we have tried it. It will receive the best of care at our hands. Shall be glad to send you any thing you may desire from our collection in return. Will others of our readers follow this example? We are ready to try what they may send us, and will cheerfully reciprocate with anything we may have.]-Ed.

SANDUSKY, O., May 1st, 1869.

Dear Sir: I arrived home safely after my pleasant trip to Alton. Your Society is on the right track, with the men who know how to manage it, and bound to succeed.

I returned home perfectly satisfied on

several subjects; was especially delighted with your pleasant wines; am quite sure now we can compete in this country with the best French wines.

I never had any doubt that our native wines would aid us in the cause of temperance, from observations made in traveling through most of the wine countries of Europe. Also can state that there is far less intemperance in this section since the introduction of our native wines, and they have come into common use.

You know that I do not endorse what I call a foolish move of our society in discarding wine, merely to please some nonsensical whims of a few of its officers. If they had any conscientious scruples, or rather superstitious ones, let them retire and their place would be filled with better men.

For grape men must *make wine*, which is a healthy, good drink, and will always be used; it is much better to use our native than the adulterated foreign wines.

Grapes and wines can not be separated; it is sheer nonsense to try to separate them.

Enclosed is two dollars for subscription to GRAPE CULTURIST.

I have the numbers up to May; send that number. You will recollect you gave me the rest at Alton.

Yours respectfully,

D. C. RICHMOND.

P.S. I wrote a short article which is published in the *Ohio Farmer*, of which I requested the editor to send you a copy.

[The above, from a gentleman connected with a large grape growing company at Sandusky, Ohio, and who had, during extensive travels in Europe, abundant opportunity to form a judgment about wines, is very gratifying. Men with the experience of Mr. Richmond "know whereof they affirm" when they say that our wines can successfully compete with the European importations, and their opinions carry conviction with them.]-Ed.

SALEM GRAPE NURSERY

REMOVED TO
LOCKPORT, N. Y.

HAVING purchased of Mr. T. L. Harris, of Brocton, N. Y., his entire stock of Salem vines for transplanting, and also the wood for propagating from his Salem vineyard of thirty acres, I shall be prepared to furnish to planters and dealers, for the fall of 1869, a large and superior stock of this celebrated Grape, described by Mr. E. S. Rogers, the originator, as "the best of his entire collection," being "a Hybrid between a native and the Black Hamburg: bunch large and compact; berry large as Hamburg; of a light chestnut or Catawba color; thin skinned; perfectly free from hard pulp; very sweet and sprightly, with a most exquisite aromatic flavor; as early and hardy as Delaware and Hartford."

At the last Annual Fair of the "Lake Shore Grape Growers' Association" this variety was awarded the *first premium*. Dr. Parker, of Ithaca, N. Y., last fall had bunches weighing over one pound each.

This grape was first numbered 22, in Mr. Rogers' collection, but a spurious sort having been sold as this, he changed the number and then gave it a name. Our stock is guaranteed genuine, being derived entirely, through the hands of Mr. Harris and Miss Waring, from Mr. Rogers himself.

I shall furnish superior vines of Salem, for fall planting, at reduced rates, and feel certain that it will now be planted largely in vineyards. Also for sale, *very low*, a large stock of all new and leading varieties, comprising Delaware, Concord, Hartford, Ives, Iona, and the best numbers of Rogers' Hybrids. Also, Eumelan, Martha, and Walter.

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“ “ 9, “.....	16 00
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“ extra.....	18 00
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DIANA.....	17 00
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TAYLOR.....	20 00
RULANDER.....	24 00
MARTHA.....	20 00

RED WINES.

CONCORD, very good.....	7 50
“ first quality.....	9 00
“ extra.....	11 00
HARTFORD PROLIFIC.....	9 00
CLINTON, first quality.....	10 00
“ extra.....	12 00
IVES.....	12 00
CREVELING, first quality.....	20 00
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“ “ first quality.....	14 00
“ “ extra.....	20 00
“ “ excelsior.....	24 00
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THE GRAPE CULTURIST.

VOL. I.

AUGUST, 1869.

No. 8.

THE VINEYARD.

WORK FOR THE MONTH.

But very little remains to be done in the vineyard, if it has been kept in good order so far. Tying the young canes along the upper wires occasionally, and keeping the soil loose, clean and mellow, will be about all that is really necessary to do. This latter is all the more necessary, as August is generally the month of drouth, and the loose mellow soil is the best mulch for the vines.

Most of the varieties will color in the course of this month; birds, foxes, raccoons and opossums will begin their depredations, and must be closely watched. We are far from advising the indiscriminate slaughter of birds, as we think that they do more good, on the whole, than harm, by destroying myriads of noxious insects. But the oriole, we confess, taxes our patience to such a degree, by poking his bill into every ripe berry, that we have little mercy on him, especially as we never see him in the vineyard except when grapes are ripe. The best plan to keep them in check is to erect some tall leafless bush in several places in the vineyard. The birds will alight on them before they go into the vines, and a dose of powder and lead may

then be applied without hurting the vines. The brown thrush, cat-bird and cardinal are also much addicted to grape stealing, but we confess that we always wage war against them with a troubled conscience, as we think that the insects they destroy counterbalances their destruction of grapes. But do not shoot our little gray sparrow, the best friend you have; quietly and unobtrusively it slips along among the vines, with its clear eye always on the watch for worms and bugs. Foster and cherish him and the pretty blue-bird; they never touch grapes, and only live on insects. We have no mercy on our four-footed depredators, however, and if foxes, raccoons and opossums see fit to attack our grapes wholesale, we think ourselves justified in waging war against them, with all and every means in our power. One of the most destructive is a dose of strychnine, put on the wing or leg of a chicken, and scattered about through the vineyard. We have killed a whole family of foxes in this way, in a single night, and if they partake of these pleasing morsels, the poison acts so quick that they will not get out of the vineyard alive. But of course you

must keep your dogs at home while applying it, or they might share the fate of their arch enemies. Where you cannot obtain strychnine, steel traps and dogs will do good service against them.

When grapes are to be marketed, they should be packed in small, shallow boxes, containing from ten to twenty pounds each. Do not cut them when they are wet with dew or rain. They should be perfectly dry, and all rotten or damaged berries carefully picked out. Cut the stems long, and lay a layer of grape leaves or paper at the bottom of the box, then a layer of grapes, packed as tight as you can

crowd them, then put on another layer of leaves or paper, on this another layer of grapes, and cover smoothly and nicely with leaves or paper. The boxes should not be deeper than to hold two layers, say about six inches, and the cover slightly pressed on in nailing it down. They will bear handling much better than when loosely packed.

Get all your casks ready for wine making, your fermenting vats, etc., so that the vintage will not find you unprepared.

We will give some advice about wine making in another article.

CAN GRAPE GROWING BE OVERDONE?

In the July number of the *GRAPE CULTURIST*, is an article by the Editor, entitled: "Can Grape growing be Overdone?"

The Editor arrives at the conclusion that it cannot be overdone, and proceeds to depict the great future which awaits American grape and wine-growing. I hope his prophecies will prove true, but I am not quite so sanguine as he is, and entertain slight doubts as to the correctness of some of his assertions; and desiring to be set right, and to be enlightened by so high an authority as the writer of the article, I beg leave to make some comments on it. In doing so I follow the subdivisions under which the subject is treated.

Sub. 1st. It is asserted that grapes can be retailed from the fruit stand, with profit to the grape grower, at five cents, and Concord even at four cents

per pound, and that "at this price even and taking the lowest average yield, they will pay two hundred and fifty dollars per acre."

The price at which any commodity, be it the product of agriculture or of manufacture, can be furnished, is a matter of calculation, and can be ascertained beyond dispute like any other problem in arithmetic. I am well aware, that the calculation as to the price at which a pound of grapes or a gallon of wine can be grown, has often been made and published in treatises on the subject, and in agricultural papers; to them the curious reader may refer, but they are not always at hand and do not always agree very well, and in connection with and in support of the assertions above set forth, it would not have been out of place if the writer had given the data or premises upon which his said asser-

tions or conclusions are based. There is no person in the country more familiar with the subject than the Editor of the *GRAPE CULTURIST*; many acres of vineyards have recently been planted under his eyes and control at Bluffton, thirteen and a half acres of which are already of bearing age, according to the published reports of the officers of the "Bluffton Wine Company." These plantations have undoubtedly been made upon the cheapest and most approved plan, and the cost per acre in labor and money may be taken as a standard; and it would have been very interesting to me, and probably to many of the readers of the *GRAPE CULTURIST*, if reference had been taken to it, and we had been informed: (*a*) of the value of an acre of land suitable for a vineyard; (*b*) of the costs, in labor and money, of preparing the ground; (*c*) of the price paid for the grapevines planted; (*d*) of the cost of planting the vines and cultivating the vineyard until it arrives at bearing age; (*e*) of the cost of the material for stakes and trellises, and of the labor to put them up; and (*f*) of the annual cost of cultivation of an acre of bearing vineyard.

Not until these several items of cost have been established and summed up, and the average annual yield in pounds of fruit ascertained, can we proceed to calculate the annual average net profit resulting to the grape grower at a given price for his grapes; and if this price is already known, if his grapes are to be retailed from the fruit stand, the Concord at four cents and other varieties at five cents per pound, the proceeding is a very simple one: these four or five cents per pound form the gross

proceeds, from which, to arrive at a correct conclusion as to the net profits, we must deduct:

1. The interest on the capital permanently invested; that is on the aggregate costs incurred under items *a*, *b*, *c*, *d*, and *e*.
2. The cost of cultivation during the year, being item *f*.
3. Labor and expense of gathering and packing the grapes and shipping them to market.
4. Expenses incident to the sale in the form of commission, storage, &c.
5. Occasional loss by spoiling of the fruit in consequence of slow sales, careless handling and unavoidable accidents.

I am afraid that, if I were to make the calculation, the profits to the grape grower would fall considerably short of \$250.

Sub. 2d. The writer continues: "The consumption of wine will become immeasurably greater than it now is, as soon as the price is sufficiently reduced. Let the laborer be enabled to purchase a good light wine by the keg at, say \$1.00 per gallon, and millions will drink wine daily," etc.

We expect that the consumption of wine will increase in about the same ratio as its production increases; in all foreign wine growing countries it has been so, and there is no apparent reason why this country should be an exception from this rule; but if one dollar per gallon is the minimum price at which the laborer will be enabled to purchase wine by the keg and use it as his daily beverage, then this golden era is near at hand, if it has not already arrived. Wine—Catawba and Concord—has in many instances been

sold at that price, and can still be obtained at it, if not from the merchant or middleman, at least from the producer; yet it appears that the laborer has not yet availed himself of the opportunity thus offered to him, and that the ungrateful millions are rather slow in drinking wine daily! Why should our native wine be cheaper in future than it is now? Are the wine-growers' profits at present excessive, or will our vineyards in future be more productive; or will labor be so much cheaper? Is there not native wine enough in the market to supply the demand? If, however, the assertions (Sub. 1) are correct,—if the grape-grower can afford to have his grapes retailed with advantage to himself at five cents a pound, then I dare to say he can afford, with even greater advantage, to sell his wine at fifty cents a gallon.

Sub. 3d. It is predicted that "we shall become exporters of wine in a few years, instead of importers."

To become exporters of wine in competition with other wine-growing countries, it will be necessary either—

(a) That we produce a better article than the competing countries; or,

(b) That the average yield of our vineyards be greater; or,

(c) That our costs of production be less; or,

(d) That our facilities for transportation be so much better and cheaper.

It would be interesting to know upon which of these points the Editor principally relies for his assertion; one or more of them, or all of them combined, must come to our aid to make us successful exporters of wine.

According to the best information which I have been able to collect, the average yield in fruit of an acre of vineyard in Europe is about the same as that here in America, and the facilities of commerce and transportation are also about the same over all the civilized world. In France the annual labor to cultivate an acre of vineyard can be hired at from 40 to 50 francs; in Germany at from 20 to 30 guilders, or 15 to 20 thalers; in Spain the wages are about the same as in France, and in Hungary they are still lower; while in this country the cultivation of an acre of vineyard ranges up to near one hundred dollars per year. So the chances appear to be rather against us, except as to the quality of the wine, and we would be blind if we were to disguise the fact from us, that on the average foreign wines are preferred to the native product; but even if this was not so, if our wines were superior to the foreign wines in point of quality, still the item of wages would be an obstacle to their exportation in competition with the wines of other countries; to overcome which will not be an easy matter, so long as the present price of labor is sustained, and it is neither probable nor desirable that it soon be reduced.

THEOD. ENGELMANN.

Looking-Glass Vineyards,
St. Clair Co., Ills., June, 1869.

We are glad to hear the views of so old and distinguished a grape-grower as the writer of the above, even when he differs in his estimation of the profits of American grape-growing. We think, however, that he has plainly mistaken our meaning on some of the

points upon which he rests his objections. We did not assert that Concord grapes "could be sold from the fruit stand at 4 cents per lb;" but that at 4 cents *net* to the grape-grower, they would still bring \$250 to the acre. This, if they retailed at 6 cents, would leave a margin of one-third for packing, freight and commission, which we think should be sufficient. We have formerly paid 10 per cent. commission to dealers to effect our sales. We can average 7,000 lbs to the acre, which would, at 4 cents net, be \$280. Deduct from this \$30 for contingencies, losses, etc., and we have \$250 clear. Let friend Engelmann observe that this is, in our estimation, a very low yield. We have had the Concord produce 25,000 lbs. and over to the acre, but these were exceptions, not the rule. We still think 10,000 lbs. to the acre a low average yield *here*, but we wish to make the lowest calculations, so as to be on the safe side.

But our friend wants to know from us the cost of establishing a vineyard, doubtless for the purpose of ascertaining whether grape-growing, at a return of \$250 per acre, will pay. We will treat his questions in the same rotation as he has numbered them.

Q. a. The value of an acre of ground suitable for grape-growing will be difficult to ascertain. The Bluffton Company has paid for its lands, which in our opinion are among the finest to be found for that purpose, an average price of \$17 per acre. But we do not suppose that land can be bought, on an average, for that amount. Let us then estimate the average cost, in its raw state, at \$50 per acre.

Q. b. The cost of preparing an acre

of ground must also necessarily differ. Whether the land is old cleared land, prairie, or woodland, will of necessity make a material difference. But let us put it, if it is woodland to be cleared including grubbing, clearing, plowing, fencing and planting, at \$100 per acre.

Q. c. Price of vines planted will also differ with the variety to be planted. As we have taken the Concord as an instance, let us take the average cost: planted 6 by 10, 726 to the acre, at \$40 per 1,000, \$26.04; or, for the sake of round figures, \$30.

Q. d. Cost of cultivating until bearing. This will also vary with soil, location, wages, etc. We would to the best of our knowledge estimate it thus: \$10 the first year, \$25 the second, and \$75 the third year; total \$110.

Q. e. Cost of trellis per acre. This will also differ with price of wood, wire, etc. Let us take the average:

400 posts, 3 by 3 inch, 10 cts....	\$40 00
650 lbs of No. 12 wire, 10½ cts....	68 25
Setting posts and putting up	
wire.....	15 00
	\$123 25

Let us say \$125 per acre.

Q. f. Annual cost of cultivation of bearing vineyard. We think \$80 per acre about an average *here*. Now, let us recapitulate:

Cost of land	\$50 00
Cost of preparing ground.....	100 00
Price of vines.....	30 00
Cost of cultivation first three	
years.....	110 00
Cost of trellis.....	125 00
	\$415 00

Yield of vineyard per annum, \$250; from which is to be deducted interest at the rate of 10 per cent., \$41.50;

annual cost of labor, \$80=\$121.50. Leaving net profit in favor of vineyard of \$128.50. Or, taking for granted, as we have done in this calculation, that a man can manage three acres, a profit on his labor of \$385.50.

Where is the field crop, or the agricultural product, which will produce more? Yet these figures are the lowest average in yield of the Concord, and the cost averaged at the highest rates. We have not included the grape wood, nor the yield the third year, which is generally about half a crop, and will fully pay for the labor the third summer.

We did not, of course, say that they would yield \$250 *clear profit*, as our friend seems to infer, but that they would pay \$250 per acre per annum, and we think in this estimate we are far below the *general* average.

His next objection is to our assertion "that the consumption of wine will become immeasurably greater, as soon as the laborer is enabled to purchase good light wine at \$1 per gallon." He seems to think that "this time has already arrived, that Catawba and Concord are already sold at that price, and that the ungrateful millions are slow to avail themselves of the opportunity." To this we reply, that only in a very few grape-growing districts can wine be had at this price yet; in fact we know of *no* place where wine can be had by the keg or a few gallons at that price. We would further remind our friend that it takes a long time before any reform, whether it affects our social or political customs and habits, is generally adopted. We remind him of the change in regard to beer, the fore-

runner of wine. We can well remember the time, and so can he, doubtless, when our American friends could not imagine how the Germans "could swill beer, smoke a pipe, or suffer so much hair to grow on their face." Now what is more common than to see them drink beer? What more fashionable than the meerschaum and the full beard? These changes are not effected in a few weeks, it takes years to accomplish them; and he will certainly not deny that already twenty glasses of wine are consumed to-day where hardly one was drank five years ago.

He asks, "Why should our native wines be cheaper in future than they are now?" We answer, to make them the common drink of the mass, and thus enable us to sell all we raise. We assert that the profits of the grape-grower, who has grown *reliable* varieties in *suitable soil*, have been much larger than they need be; that his returns can be much lower and he can still make good profits at the business; that our vineyards on an average will be more productive than they have been heretofore, because we plant more reliable varieties, and have learned better how to work them; that there is *not* native wine enough at present to meet the demand, were the country thoroughly canvassed for its sale, and that native wines are scarcer in the market now than they were a year ago, although we have had a very abundant crop last year. All this we can prove by facts and figures.

We agree with him in the point he makes, that wine can be made with more advantage at 50 cts. per gallon

than grapes can be grown at 5 cts. per lb., *provided always* the grape-grower has the necessary capital to build cellars, buy casks, sugar, etc. As long as he has not, he had better sell his grapes, and make the money out of them to make wine the next year.

But our remarks have already be-

come more extensive than our space will warrant for this number. In our next issue we shall be happy to answer the remarks of friend Engelmann about exporting wine, and also try to show which, in our opinion, are the ways and means to accomplish what we assert.

EDITOR.

TRAILING CHAIN CULTURE OF THE VINE.

FORKS.—As soon as the blooming season is over, the vines are set on forks, which keep them at a height of from 15 to 20 inches, using for this purpose short sticks, either fork-shaped, or notched on the top. Three or four are at first sufficient, but when the fruits are nearing maturity, care is taken to supply as many as may be necessary to keep the grapes from soiling or rotting. While the height mentioned answers this purpose, the vines are yet low enough to insure perfect maturity of the fruit, and superior bouquet to the wine. The soil then acts as would a wall to "espaliers." And it is chiefly because the trailing chain culture makes the soil an immediate reflector of heat, that the wine obtained from it is so highly prized.

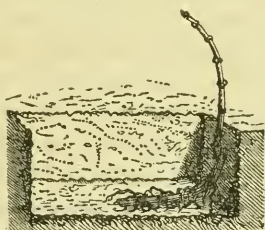


Fig. 4—"Trough method" of Planting.

PLANTING.—The mode of planting most in use, and which is called "trench planting," consists in digging trenches twenty inches

wide, and twenty-six inches long, (fig. 4). Some use cuttings, with or without old wood, but preference is given to two-year old nursery plants, well supplied with fibrous roots set about a foot deep. The cuttings, or fibrous rootlets, are elbowed on the ground, raised up vertically, and the trench is filled up, but not packed hard. Some leave one, others two eyes above ground.

Skillful vintners seem to agree that cuttings properly chosen and carefully set in, are earlier in vegetation, and more prolific in fruit than root plants.

Cuttings obtained from the lower part of the canes are said to be slower of growth than those taken higher up.

MANURING.—As before stated, manure is generally dispensed with, but where its use is deemed necessary, this peculiar mode of culture is specially fitted to receive the fibrous organic manures which have been found to augment so wonderfully the fruiting strength of the grapevine.

The common farm manure may also be applied, spreading it over the ground and plowing it in. But trench manuring is here of easy application, that it is mostly resorted to. Once in ten years is amply sufficient; the roots extending freely can feed from a vast area without starving each other. Trenches are dug on one side of the row, at an average dis-



Fig. 5—Vine supported by two forks at blooming season.

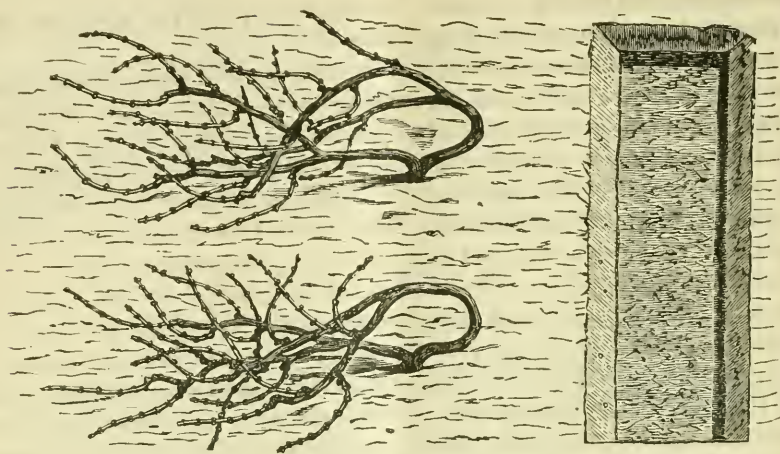


Fig. 5—Trench Manuring of the Trailing Chain.

tance of two feet from it (varying according to the age of the vines), and about two feet wide (fig. 6). In those trenches are buried all the fibrous manures that can be obtained, such as bundles of reeds, bushes, green branches, leaves, etc., etc. The advantages of the system are manifold. It manures and drains the soil at the same time; the amount of cartage is less; the lignous elements which it furnishes to the soil are exactly what the vines need most (especially the young vines); the air admitted through these trenches penetrates

deeply, calling into action a larger amount of nourishing elements (chiefly the silicates of potash).

PRUNING.—In locations not subject to late spring frosts, the heads of the stocks are kept close to the ground, which disposition has a tendency to check the attacks of oïdium; but in cold, impervious soils, it is well to grow them from one to two feet above ground. It facilitates the gathering up of the whole bush in the plowing season.

(To be continued.)

GRAPES AT HAMMONDSPORT, N. Y.

“The following account of the grape products at Hammondsville, Steuben County, N. Y., is by Dr. E. Van Keuren, one of our most thorough and conscientious cultivators:

“‘The grape vines of this region, as a whole, have come through the winter remarkably well, and give promise of a large crop of fruit. The buds of a few failed to put forth, but they are not much to blame, considering the treatment to which they have been subjected. Over generously enriched,

and starvingly stunted soil, together with untimely, poor, or positively no culture and training at all, have their results here with grapes, as they do everywhere, and in all other branches of horticulture and agriculture.

“‘Comparing notes made in ’67, ’68, and those being made this year by actual measurement of vines of the same kind in like circumstances, it appears that the season with our grapes is a week in advance of either of the past two, and the season has

been so favorable for cultivating vineyards, that we have been able to keep pace fully with the advanced growth. The custom of late fall plowing, throwing the ground up against, and even over, young vines, is yearly becoming more general. How much of good wintering and early and healthy starting of the young shoots should be attributed to this it is as yet difficult to determine. There is no doubt that good results follow from it, by the protection from freezing it affords to the roots of the vine, its fertilizing influence upon the upturned earth, and the destruction it causes of the roots and seeds of weeds, and, we may add, the facility it affords for completing the first course of spring cultivation at its proper time. Our spring cultivation is, or should be, finished in the month of May, and consists of plowing between the rows to the depth of from four to six inches, throwing the earth away from the vines, and hoeing with what is called with us a 'grape hoe,' stirring the narrow unplowed strips of soil to the depth of four inches, care being taken to remove all weeds and grass, and not to injure the roots at or near the head of the vine. We find the grape hoe so convenient and valuable an implement in the garden, that I am tempted to give a hint as to its form for the benefit of those who never saw one. It has an eye as large as that of a common axe, but rather irregularly square, from which eye proceed two prongs, parallel with each other, two inches apart, about seven inches long, an inch wide, half an inch thick near the eye, and tapering to an edge. Imagine the blade of a carpenter's adze cleft, and somewhat

straightened, and you will have some idea of it.

"The work of plowing and hoeing being done timely, the intelligent vineyardist is ready for disbudding, or 'rubbing out,' as we familiarly call it. This takes place from the 25th of May to the 10th of June with our best growers. The young shoots are then tender and easily removed. The importance of this branch of training or pruning is never over-estimated; it affords an opportunity for the correction of errors or omissions in fall pruning, and allows us to determine, accidents aside, the quantity of fruit the bearing vine shall carry. When two or more shoots start from the same bud, one only, the strongest, is left, and all barren ones, and shoots coming out from the old wood, and springing up from the roots around the head of the vine, are removed. Those fruit bearing shoots (always on the last year's wood) which are feeble, are taken out, leaving such a number as the vine is able to support; never losing sight, however, of making provision for next year's bearing canes. In the performance of this work, the good sense and judgment of the vine-dresser may be displayed to the advantage of the proprietor of the vineyard.

"The desire for improvement or change, so natural to our people, finds no abatement of activity, but rather an increase, in not a few of our grape growers. It is not uncommon to hear some of them say: 'I wish I had planted this or that variety, instead of those I have.' A few of the newer kinds have been so thoroughly and ingeniously pressed upon their atten-

tion, and the past two years having been rather unfavorable for maturing some of the later varieties, there is a sort of unrest in the minds of some—a longing for the realization of their Utopian ideas of vines and grapes. They are anxious for earliness, never-failing hardiness and fecundity, with the most superior excellence of fruit for wine and market. Who would not be pleased with such a realization, but who can in reason expect it?

“We are producing mainly Catawba, Isabella, Delaware, Diana, and Concord, proportioned in the order

I have named them, and we have planted quite largely, within a year or two, of the Iona and Israella. Most kinds that can be grown in this latitude are found here in small quantities; the newer sorts are on trial, and, as a whole, our vineyardists act upon the rule of proving all things, and holding fast that which is good.”

[We copy the above from the *American Agriculturist*, and would advise our friends at Hammondsport to try the Martha. We think it will “fill the greater part of the bill.”]

WINE CELLARS—THEIR FURNITURE, ETC.

In our former article about wine cellars, we forgot to mention that they should be well ventilated. In arched cellars this is generally done by chimney like holes which are made in the arch on both sides, and grated with iron bars.

We now come to the utensils that are necessary for wine making. You need :

1. A press. We have found a press which we have used for the last five years, made by Geiss & Brosius, Belleville, Ill., all sufficient. It is compact, can be carried and put up anywhere, will do the work quick and thoroughly, and is much more satisfactory to us than all the large, clumsy contrivances we have seen. If you have not over 6,000 gallons to make, one will be sufficient; if more, get two. Price, \$45.

2. The mill. The same firm also make an excellent mill, which can be used for grinding apples and grapes.

For mashing grapes, the apparatus for cutting apples is taken off, and the stone rollers can be set to any required distance by screws. They should be set so that the skin of the berries only will be broken, without mashing the seeds. Price, \$45. However, for mashing grapes, a simple pair of wooden rollers, running against each other, will answer the purpose, and work admirably.

3. Fermenting vats. These can be made of poplar, of any suitable size, from 200 to 500 gallons. We prefer them narrow and high, with a so-called man-hole or door at the bottom, a shaft in the middle, and a false bottom or lid, which can be slid up and down on the shaft, and is perforated with half-inch holes, to keep the husks below the fluid; and a lid on top, of which one-half is nailed on the top, and the other half is fastened with hinges like a trap door, and fastened down with hooks. By nailing a strip of flannel or india

rubber either on the ends of the staves or on the trap door, this can be made air tight, and the young wine can be kept in these vats even after fermentation, which will be a great saving in casks. A vat of 500 gallons will have about four feet diameter, and be six feet high. Mr. Tobias Weigold, whose card the readers will find in our advertising columns, will make them to order, at about ten cents per gallon, and we can recommend him, having used his casks and vats for several years. He is prompt, and an excellent workman.

4. Casks. These you want, of course, of all dimensions. Large casks save room, and fermentation progresses rapidly in them, but when fermentation is over, the wine fines a great deal quicker in smaller casks. They should be of good white oak wood, well seasoned and, if possible, steamed, so that the tannin is drawn out. Larger casks should also have a so-called man hole, so as to enable a man or boy to slip in, and thoroughly clean them when emptied. We do not advise any larger casks than 500 gallons, as it takes too

long to fill them, and they are unhandy. They should be laid on strong beams in the cellar, about eighteen inches from the ground, and at least a foot from the wall, to enable you to examine them and brush off mould, cobwebs, etc.

5. A strong funnel, best made of wood, oblong, with a copper pipe on one end, and two short legs on the other, one on each side, so that it will set firmly on the cask. Any good cooper can make it.

6. Tubs, to be used in pressing. Any of our pine or cedar tubs will do. Also clean tin or wooden pails in abundance.

7. A saccharometer or must scale. This you cannot do without, as it is the only sure guide you have of the quality of the must. Oechsle's is most commonly used, and can be had now at a great many places. Jacob Blattner, St. Louis, keeps them for sale Price, \$3.50. You should also have a long glass or tin tube made for the purpose of holding the must while testing it.—
[Ed.]

TO THE GRAPE GROWERS OF THE SOUTH SHORE OF LAKE ERIE.

On the 20th of March, at a meeting of grape growers, held at the Court House in Erie, Pennsylvania, an organization was formed for the purpose of promoting grape culture on the shore of Lake Erie, to which was given the name of Lake Shore Grape Growers' Association.

In respect to the circumstances which gave rise to this organization,

the undersigned, constituting its executive board, desire to present the following statement of facts:

Four years since, at Cleveland, Ohio, the Northern Ohio Grape Growers' Association was formed. A year later, it enlarged its jurisdiction so as to include those portions of Pennsylvania and New York which border on Lake Erie, and changed its

name to the Lake Shore Grape Growers' Association. Its purpose was to extend and improve the culture of the grape, and to aid in elevating it to the high position which it occupies in Europe. Up to that time, the large body of grape growers had but crude ideas of the methods of cultivation; and, in the absence of practical treatises adapted to the American vine, they were compelled to rely, mainly, upon the teachings of experience in long and often unsatisfactory experiment.

But, with the organization of that association, a new impetus was given to grape culture. Meetings were held under its auspices, at which the questions of soil and situation, and the methods of cultivation, training and pruning, as affecting the prosperity of the vine and the perfection of its fruit, were discussed. Excursions of grape growers to the vineyards at different localities, from the islands of Lake Erie and Sandusky, Ohio, in the West, to Dunkirk, N. Y., in the East, were had during successive years. Exhibitions of grapes and wines were had at various places, at which the comparative results of grape culture could be seen, and standards of excellence established; and, through these instrumentalities, much needed information was gained in the details of grape culture.

The undersigned have nothing to say, except in commendation of the motives and purposes of that association, as its inception, and during the first years of its brief career. They only regret, that, under its management, the association has been gradually losing sight of the broad prin-

ciples which characterized its earlier history; and, with this, came a want of material prosperity, a failure to secure a public interest in its last annual exhibition, and—a bankrupt treasury.

Such was the condition in which the association found itself, when it convened at Cleveland, O., in February last, on the occasion of its annual meeting. There, as if to still farther stultify itself, the members present adopted a resolution to exclude wines—the product of American grapes—from the future exhibitions of the association. Next followed a proposition, earnestly advocated, to do away with the distinctive character of the body as a grape growers' association, by merging it into the Ohio State Horticultural Society; but as this appeared to a majority of the members present like a proposal to "strike their colors," and a tacit confession that there was not spirit enough among grape growers to sustain an association devoted to their interest, this effort proved abortive; and, then, with the hope expressed that they might secure a State appropriation to replenish the coffers of their association, a resolution was offered and adopted, to change its name to the Ohio State Grape Growers' Association.

The undersigned do not wish to take exception to the course pursued by the members of the association, present on that occasion, further than to suppose a reversal of the situation; and they would inquire, in what light such a proceeding would have been viewed, had the annual meeting been held at Northeast, and a preponder-

ating majority of Pennsylvania grape growers, with premiums due and unpaid to Ohio exhibitors, adopted a resolution changing the name of the organization to the Pennsylvania State Grape Growers' Association?

Nor do the undersigned object to associations whose jurisdiction is determined by State lines. New York has its "State Grape Growers' Association," which, thus far in its career, has been an eminent success, and is prosperous *without* State aid. Ohio, by the recent *coup d'état* at Cleveland, has, without warning, had an association ready made presented to it, which hopes, *with* State aid, to become a useful adjunct to grape culture in that State. State associations can materially advance the prosperity of the grape growing interest, even though a comparison of results in localities widely apart in latitude, and possessing but little in common as respects soil, situation and climatic and atmospheric influences, will often fail to prove instructive to grape growers in all parts of the State. But, in the existence of an association having a jurisdiction co-extensive with grape lands possessing the same general geographical situation, with the same soil and climate, there is an eminent fitness. Within such natural boundaries, there is a unity of interest not affected by the arbitrary division of the country into States and countries; and a frequent interchange of views by grape growers, thus situated, cannot fail to be instructive and beneficial.

It was with these sentiments that the grape growers, who assembled at Erie, organized anew the Lake Shore Grape Growers' Association. Much

to their regret, there was but a single representative of Ohio present—the secretary of the Ohio State Grape Growers' Association—who found fault because the new organization had determined to adopt a name which the association he represented had discarded; but the undersigned express the sentiments of all their associates when they say that, it is their earnest wish to have the co-operation of all grape growers on the south shore of Lake Erie in the movement, which has been so propitiously inaugurated; and they hope that, by the next annual meeting, accessions to the association from Ohio will be had to enable her territory to be fully represented in the body and in its executive board.

Already many letters have been received from Ohio grape growers expressing their sympathy in the movement, and regretting their inability to be present at the organization. Further correspondence is invited, in the desire to once more have an *esprit de corps* established among those who can have but a common interest in this great and growing branch of American industry.

In conclusion, the undersigned beg leave to ask your attention to the language of the preamble to the Constitution of the new Lake Shore Grape Growers' Association, which, having been unanimously adopted, may be justly considered as expressing the views and wishes of those who were in attendance; and they desire to give renewed assurances that, regardless of what occurred at Cleveland, and the mortification which the New York and Pennsylvania grape

growers could but feel at being thus summarily cut off from their former associates, they desire nothing so much as to see the former relations of an associated effort on the part of grape growers on the entire length of the Lake Shore restored.

WILLIAM GRIFFITH,
A. S. MOSS,
WILSON KING,
JOHN E. MOTTIER,
I. H. BABCOCK,
E. C. BLISS,
EDWARD F. UNDERHILL,
ROBERT EVANS.

[The foregoing address was sent us by the chairman of the Committee. We are glad to notice their efforts and trust that similar association will soon be formed in every section where grape growing has become one of the leading interests. If similar associations will send us their proceedings, they will always be welcomed to our columns as important assistants to the common cause.—Ed.]

THE RULANDER AND ITS WINE.

SUMMERFIELD, ST. CLAIR COUNTY, ILLS., }
May, 1869. }

In the April number of the *GRAPE CULTURIST*, Mr. Husmann asks why a grape of one and the same variety (species) could make a "Hock" wine in one locality, and produce a different wine in another?

Before we enter into this question we ask, What is the origin of the word "Hock?" Mr. Husmann seems not to be acquainted with it. The English tourists on the banks of the Rhine preferred "the Hochheimer" to all other wines. Its deep yellow color, its body, and more pronounced "bouquet," besides its other qualities, made it a favorite with those travelers. And, as they could never learn to pronounce the deep German guttural "ch," they pronounced it ck; and so first "Hock-eimer," and at last abbreviated to "Hock." "Hock" and "Rhine-wine" *was*, and partially is, in England identical. Now to meet Mr. Husmann's question.

The Trollinger vine, brought from Italy to Germany, furnishes in its native land, under a hotter sun, and on the

"Terra di Lavora," a strong, purple fiery wine; in Venaissin (Veltelin), milder, sweet, delicious wine, and in Wurtemberg the well-known "Schiller and Neckar wine."

The Rulander wine (Pineau) in Burgundy, is as different from the wine of the same grape in the Champagne as that of the same grape at the Moselle and the wine from the same grape pressed in Asmannshausen, is different from that of Ingelheim, and of Appeltal, near Offenburg, and of Zell, in the southern part of Baden.

The Rulander acclimatized for a longer period on Lake Pontchartrain will show a different type from the same vine acclimatized under a more northern latitude.

Without entering farther into this question—without pointing to the varieties of wheat, and, in the animal kingdom, to hens, dogs, etc.—we direct for full information in regard to the anamorphosis and metamorphosis of plants etc., to Darwin's celebrated work.

FR. HECKER.

[This communication from our valued friend had been accidentally mislaid at our office, hence the delay, for which we ask his pardon. We have, since writing our first paper, to which Mr. Hecker refers, had an opportunity to convince ourselves of the great influence soil and aspect will have on that grape, and, we believe, on *all* of our varieties. The wine we have made from the Rulander grown at our former vineyard, (and to which we referred in that article,) on an eastern slope, always had a sherry

character and color. Wine made from the same grape by Mr. Kuhn, just above Hermann, and only two and a half miles distant from our vineyard, but on a southern aspect, which we have since tasted, is the most delicious *white* wine we ever tasted, and comes as near to an exquisite Rhenish wine as anything we have ever tried. We believe that soil and aspect have as much influence on the character of wines here as they have in Europe.—ED.]

PROSPECTS OF THE GRAPE CROP.

The present season commenced with the prospects of a very abundant crop, which, we are sorry to say, have since been considerably impaired by the very unfavorable weather in the Western States. The incessant rains, intermingled with hot, sultry weather, and murky, close atmosphere, could not fail to produce all diseases to which the grape is subject, and which have in some locations almost entirely demolished the crop. From the neighborhood of Peoria, Ill., we hear that nearly the whole crop is ruined. In the neighborhood of Hermann, the Catawba has suffered very much, and those whom the two last extremely favorable seasons have induced to plant the Catawba again, now see to their distress, that it is as unreliable as ever. Varieties which were entirely exempt from disease formerly, have this season shown at least a trace of it, and the only varieties entirely exempt, which we have seen, are the Cynthiana and Hermann. Even the Nortons has

shown a few rotten berries, the first we have ever observed on this long tried variety, but it is not enough to materially diminish the crop.

Here in our neighborhood we have made the following observations, and we only hope that our friends from abroad will send us theirs, to enable us to give a full report of this important crop.

Slightly affected by rot, but not enough to damage the crop: Norton's Virginia, Clinton, Goethe, Ives, and Delaware.

Damaged by rot, so as to lose about one-fourth of the crop: Concord, Taylor, Hartford, Herbemont, Berks, Lindley, Cunningham.

Badly affected: Catawba, Wilmington, Massasoit, Merrimack, Agawam, Marion, Union Village.

Norton's Virginia shows an enormous crop, such as we have never seen equaled yet, especially in a piece of sandy bottom land; and those who still consider this grape unproductive, had

better come and see it there. Delaware has also an enormous crop on light, rich soil. Concord will give a fair average crop, so will Herbeimont; Clinton and Hartford a very abundant

one, and Catawba a very light crop. In the September number we hope to give our readers a more complete statement, and hope to receive information from other parts of the Union.—[Ed.]

THE CHEMISTRY OF WINE.

By CHAS. H. FRINGS.

(Continued.)

Ether we call a thin and very volatile fluid, of very pregnant flavor, which is developed by the action of acids upon alcohol. Thus, by the action of sulphuric acid upon alcohol, sulphuric ether is produced; by the action of acetic acid upon alcohol, vinegar ether, etc.

The action of the acids and alcohol contained in a certain fluid is just as regular and certain in its results as the action of acids upon alkalis. The results can, however, be hastened or deferred by change of temperature. When fermentation has been thorough and complete, no new ethereals are formed in the wine, unless the balance is destroyed, and the proportions changed again by other causes. This will, however, often happen with wine. Evaporation through the casks, change of temperature, filling up with other wine, but more than anything else, the cutting and mixing of different wines will have this result. It always takes some time, therefore, especially after the last named process, before the mixed wine attains the *bouquet* it will eventually retain.

The general result may be summed up thus: Whenever a larger proportion of acids and alcohol are added, the

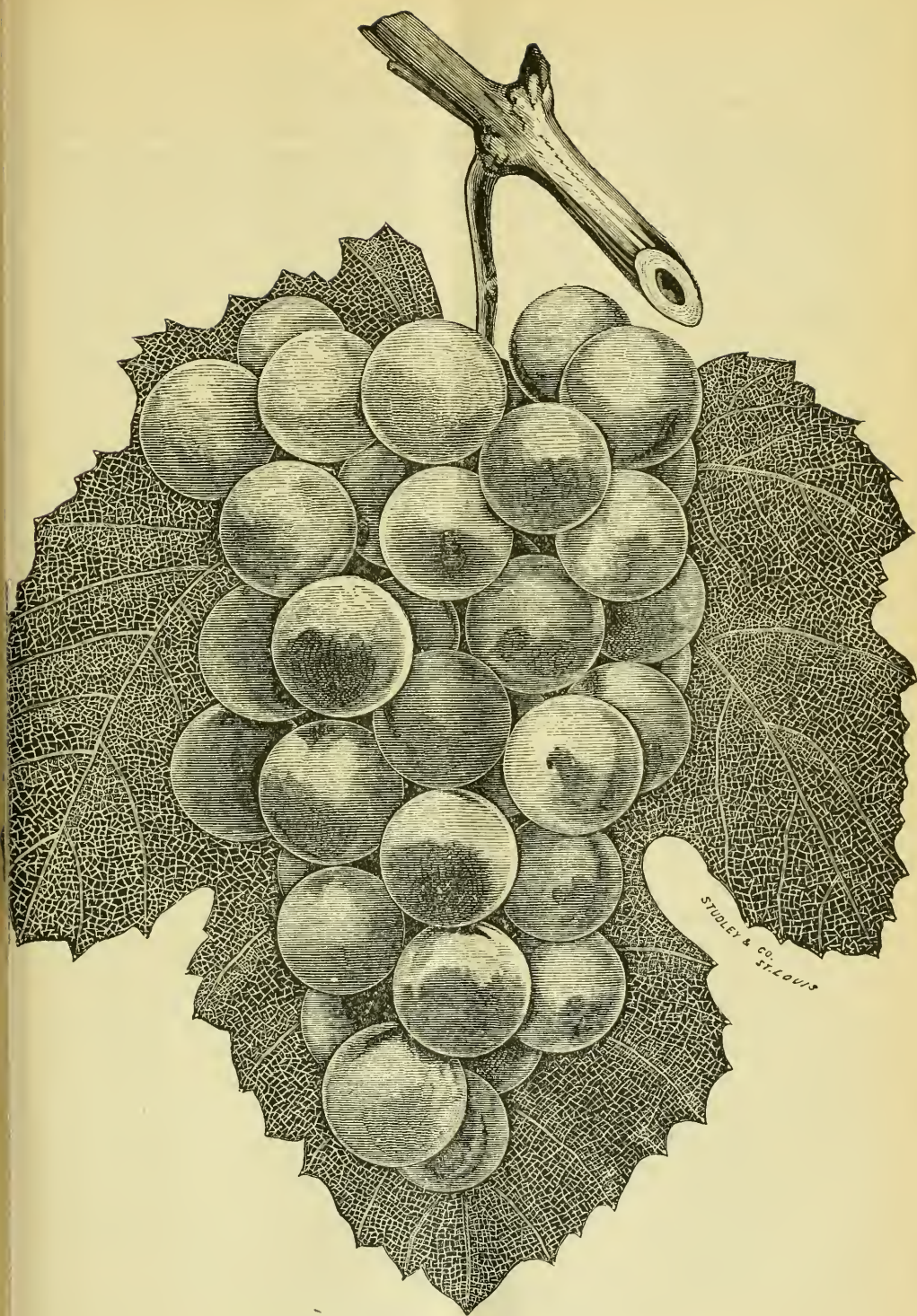
ethereal qualities, or the bouquet, will be increased; if the acids and alcohol are reduced, the bouquet will also be reduced.

Take it all in all, the quantity of the ethereal substances thus formed is very small. It varies between 1-10,000th and 1-30,000th part of the weight of the wine. They exercise, however, even in these homœopathic solutions, a great influence, not alone upon the taste, but also upon the flavor of the wine.

Unfortunately we cannot fully determine the nature of these material ingredients of wine. Had we a medium to assist our sense of smell in the same manner as we can assist our sight by the aid of the microscope, it would be an easy task to imitate the flavor of the most celebrated bouquet wines. As we have not such a medium, we can only try to reach it by combining and adding, instead of analyzing, until a lucky accident will bring about some great discovery.

Great progress has already been made in this science, which is proved by the many different ethereals of fruit we already have, by which the flavor of apples, pears, oranges, pine-apples, etc., is so closely imitated.

(To be continued.)



GOETHE. (ROGER'S HYBRID NO. 1.)

GOETHE. (ROGERS' HYBRID No. 1).

We take the above excellent illustration from the illustrated Catalogue of Isidor Bush & Son. It is a correct likeness, engraved from a photograph of a bunch grown on their place on a three year old vine.

For the West here, this promises to become one of our leading grapes, and as the Catawba is abandoned more and more, on account of its liability to disease, this will prove an excellent substitute. It has passed through this extremely trying season comparatively unharmed, and as it is a free grower, and very abundant bearer, while it makes an excellent white wine, we expect to see it generally cultivated here and further South, as soon as its merits become fully known. For the North, it ripens too late, and has therefore not received the consideration it really deserves. It is also an excellent market and table grape, and is already very good, and very attractive when only *white*, before it acquires the pale

red color. Bunch full, medium size, shouldered, rather loose; berry very large, oblong, fleshy, partaking more of the character of its foreign parent, the White Frontignan, as it has a good deal of pulp, which, however, is not tough like that of other *Labrusca*, but tender and breaking; sweet, juicy, with a Muscatell flavor. Color at first white, when it resembles the White Malaga, and is in its best eating and marketing condition, becoming pale red here when very ripe. We think that it will keep better than almost any variety we have, and those who desire to cultivate a variety for late marketing, can not do better than with this. Vine very productive and healthy, although the foliage has always a peculiar crumpled and spotted appearance, which makes it look somewhat unhealthy, while it is in reality one of the most healthy vines we grow. It is a very strong grower, and propagates readily from cuttings.—[Ed.]

For the Grape Culturist]

THE TAYLOR GRAPE.

On a recent tour to Hermann, I had another opportunity to assure myself that wine from the Taylor grape, correctly treated, may in bouquet, flavor, fire and deliciousness of taste, favorably compare with the very best and most renowned light wine grown in any part of this globe. The Taylor vine has, besides, many other excellent qualities; it is one of the hardiest (not scrupulous as to soil or position), one of our rankest growers, most easy to propagate, whilst its shoots and foliage are of unrivaled beauty. But alas! it cannot be said to be productive. On the numerous small bunches, only perhaps a dozen berries will arrive at maturity, the rest remaining undeveloped,

in consequence, as it seems, of imperfect fecundation. The productiveness may be increased by giving the vine much space, air and sun; by long pruning and spur pruning (on the old wood); and chiefly by the intermixed planting of Clinton vines (they being nearly related to the Taylor, and blossoming at the same time), whereby a more perfect fecundation will be attained. Yet by all these means the object of a desirable fruitfulness cannot be accomplished. Thus, seeing that one vine of the Louisiana, which I hold equally as high, yields me more precious fruit than three Taylor vines, I gave up the latter in despair though with regret.

In order to leave nothing untried, I

raised seedlings from the Taylor grape, but lo! they all proved completely equal to the mother vine in every particular. This is the more astonishing as the seedlings from other grapes show the most diversified properties, scarcely one of them fully resembling the mother vine. I have, for instance, six seedlings from the Herbemont, all bearing, none like the other, and only more or less similar to their mother; some more, some less productive; the berries of most of them being larger; the clusters large, medium and small; the taste of the fruit more or less juicy, sweet and aromatic; the fruit, in part, ripening with and in part before the Herbemont; but no undeveloped berries to be found on any one of them (as is generally the case with the mother vine), and not liable to rot; the growth being either very rank or medium; the wood of all being hard and not needing winter protection; the foliage being intermediate between that of the *Vitis Vinifera*, *Labrusca* and *Aestivalis*, or quite peculiar, of one similar to *parsley* leaves.

Having succeeded, as I believe, in this experiment, I shall not desist from further experimenting on the Taylor. I shall again, next fall, gather seeds from the best developed berries of a Taylor vine, planted approximate to a Clinton, and try to raise seedlings; and, if amongst a hundred, I can produce one uniting all the desirable properties of the mother vine, and being ordinarily productive at the same time (with fully developed sexual organs), I shall think to have well deserved of this vast and rapidly progressing country. Others, however, ought to do the same, and he who succeeds best may carry off the prize.

FREDERICK MUENCH.

WARREN, COUNTY, MO., June 20, 1869.

[The above valuable communication is but one of hundreds of complaints, of a similar kind, about the Taylor grape. From our experience last year, however, we are inclined to think that the Taylor will be productive enough, if planted on rather poor soil, and after the vines have acquired sufficient age. From a Taylor vine, which stood isolated in a Catawba vineyard, and could not therefore be impregnated by any other vine, as it blooms so much earlier than the Catawba, we gathered sixteen pounds of well ripened grapes, many of the bunches being very handsome and compact. The vine is the oldest we have, was spur pruned on wood several years old, and we gave it "plenty to do." It stands on rather poor ground, and looks well again this summer.

With us the Louisiana was not quite productive enough to suit us at Hermann; here, at Bluffton, it seems to flourish much better.

Our venerable friend's experiments with the Herbemont seedlings are very interesting. We have some of them growing, from scions kindly furnished by him, and shall report on them in due time. The Herbemont will doubtless prove the parent of valuable varieties, and we know of no variety which we would prefer to experiment with in seedlings.

May our "Father Munch," who celebrates his 70th birthday in a few days, live long and happily to enjoy the fruits of them and many generations to come! We take this *public* way to offer him our best wishes and congratulations, because men like him, whose whole lifetime has been spent in unselfish exertions for the common good, are public property, and their influence extends beyond mere relations of friendly intercourse with individuals. We know that we but express the feelings of thousands who have had the pleasure of personal intercourse with him, when we wish him a long continuance of that freshness and vigor which we have always known and admired in our friend "Far West."]—ED.

EDITORS' LETTER BOX.

TOLONO, ILLS., June 30th, 1869.

MR. GEO. HUSMANN:

Dear Sir: Are the North Carolina Seedling Grape and Rulander alike in wood and foliage; also in size of young berries? My North Carolina and Rulander are so near the same in wood and foliage I can not see the difference; and berries about the same, and the strongest growers I have in thirty varieties. My Louisiana is a very strong, coarse grower; young fruit large as Concord now; leaves look very near identical with Roger's No. 9; the leaves near tips of young shoots have a bronzy look on upper side, and very white on under side. These, with a number of others, I bought from a propagator here in Illinois, who claims to be correct in business. From what I can learn from descriptions of them, they are not true to name along with a number of others purchased from the same party. A better prospect for grapes than we have I never saw. We are having rain continually almost, and unless it clears up dry and warm, I fear our fond hopes will end in a crop of rotten grapes. Yours truly,

J. BAKER.

P. S. We are having the no pruning no cultivating plan tried on here. This is the third season. I have taken notes at various times each season, and at the end of this will report the result.

J. B.

[You have been swindled. The Rulander and Louisiana are so easily distinguished from the North Carolina Seedling, that they cannot be mistaken. The North Carolina Seedling is a true *Labrusca*, an immense, long-jointed

grower, with large, deeply lobed foliage, covered with down underneath; has large, oblong berries, larger than Concord. The Louisiana and Rulander have heart shaped, glossy foliage, without down on the under side; bloom very late, and the berries are small. The wood is very stocky and short-jointed. We shall be glad to get your notes].—ED.

BELTON, BELL CO., TEXAS, June 15th, 1869.
GEO. HUSMANN, ESQ.:

Dear Sir: Your valuable book is before me, and I must say that I am much pleased with it, so much so that I am desirous of testing the growth of grapes here, and would like to know if you can furnish me plants—the best wine grapes—and such as you think would suit our climate. In the first place my place is situated on a hill, on the bank of a creek. The soil is of a chocolate color, loose and mellow; depth of soil from 2 to 4 feet, the concrete (gravel and shale) for about 4 feet, then a bed of rock. My land produces well, and corn will remain green two weeks longer than on the richest bottom land. We are well protected by timber and mountains. From the description you give of the following grapes, I think they would suit our climate: Concord, Norton's Virginia, Herbemont, Hartford Prolific, Delaware and Catawba. I planted 15 vines of Catawba this spring; they are doing well; have grown about three feet and look healthy. I am a new beginner and know but little about the cultivation. All the information I have is from your work and others; but I flat-

ter myself, from your directions I can cultivate, but manufacturing wine I would have to inform myself or get a good wine cooper for a year or two. We have many grapes here in the woods, the Mustang and Port Oak. We have other small kinds, but the two former will seldom miss. I made two barrels of wine, if I am permitted to so call it, last year. It made a very pleasant drink, but if I had your book before me, I could, I am satisfied, improve it much; for I let the grapes remain in the fermenting tub too long, and left too much of stem. The juice for wine was very strong, so much so that persons who are in the habit of using strong drink would be affected by one glass of it. It contained a great deal of spirit. Thousands of bushels could be gathered annually. A good brandy perhaps could be made from this. I hope you will favor me with a reply, stating the grapes you would recommend and price per thousand; also at the same time the price of cuttings, and would not the fall be the best time to get them?

Yours respectfully,

SAMUEL W. WYCRANTS.

[We send you the GRAPE CULTURIST, in which we trust you will find the information you wish. Your soil we suppose to be well adapted from your description of it. Of course we can only guess at the varieties best adapted. We would advise you to try Norton's, Cynthiana, Herbemont, Cunningham, Rulander, Louisiana, Concord and Martha. Get your plants in fall, by all means, especially for your latitude, where they can not be shipped soon enough in spring from a more northern

latitude, to arrive in time for planting. [—ED.

RAY COUNTY, MO., May 28th, 1860.

HON. GEORGE HUSMANN:

Dear Sir: Having been a reader of several articles on grape culture and wine by you, I am aware of the great interest you take in this branch of agriculture. This induces me to seek some advice from your experience and vast knowledge in the treatment of this plant. I intend to plant a few acres in grape vines, but have not been able to obtain any plants to give satisfaction. I have tried plants from several nursery men, but the most of the plants, being very feeble, soon died. *Could you give me the name of some propagator on whose plants I could rely?* And would you advise fall or spring planting? If your leisure time would allow to answer these questions, you would confer a great favor upon me and my neighbor friends.

I am, sir, with great respect,

Your obedient servant,

OTTO KASSMER.

[You can rely upon the vines of the following establishments, among many others: Bluffton Wine Company, Wm. Wesselhoft, Secretary, Bluffton, Mo.; Isidor Bush & Son, Bushberg, I. M. R. R., Mo.; Henry Michel, St. Louis, Mo.

If your ground is prepared, we would advise fall planting, as the ground is generally in better condition than in spring, and the vines will start immediately as soon as vegetation appears. But you should run a furrow between each row, to prevent the water from stagnating around the

vines, and thus injuring the roots.—
Ed.]

SAVANNAH, MO., June 21, 1869.

Messrs. Editors: We are near the 40° latitude. Will vines grown south of us be as good for us to plant as those grown north of us? How far south may we go for vines before we will incur danger by removing them north of their home?

L. L. SELLER.

[Vines grown further south are without doubt preferable for planting to those grown further north. They have a longer season and warmer weather, and will consequently ripen their wood and roots better. Vines with perfectly ripened wood and roots will of course be better able to withstand the climate, and grow freely, than those with imperfectly ripened wood and roots. This must be self-evident to every thinking mind.—
Ed.]

HIGHLAND, ILL., July 8th, 1869

EDITORS GRAPE CULTURIST:

Dear Sirs: Inclosed you will find several leaves of a Delaware grape-vine, which are infested with a singular disease heretofore unknown to me. It commences by a few warts on the underside of the young leaves (as you will see on the specimens addressed to you, on which the malady has attained different stages.) These warts become more numerous, and finally are changed into a kind of oidium or mildew, which spreads and destroys the leaf. So far I have found the disease only on the leaves, and the fruit looks healthy, and has not been affected by it; even some of

the leaves are yet healthy as far as I can see. There is also so far but one vine considerably attacked, though another of the same kind standing close by the former shows some traces, as well as some of Norton's Virginias. The Labrusca kinds are entirely free from it.

I believed first these warts to be the work of some gall-fly (as an insect of this kind disfigures sometimes the leaf of the Clinton, though yet never with me); but, as they seem to be rather the beginning of some spreading and contagious disease caused by a fungus, I must have been mistaken.

If this disease is known to you, will you be so kind to tell us something about its nature in your valuable paper, as well as indicate the remedies which might be effectual in checking it, if it should prove really hurtful and disastrous?

If you think it desirable, I will report upon the further progress of the disease.

Yours very respectfully,

J. BALSIGER.

[The leaves you send are evidently attacked by a gall-fly. We know of no remedy, except burning them. As far as we know, only the *Estivalis* and *Cordifolia* classes are affected by it. We have never seen it on the *Labrusca*. Please report further.—
Ed.]

COUNCIL BLUFFS, IOWA, July 11, 1869.

GEO. HUSMANN, ESQ.:

Dear Sir—I have your work on *Grape Culture and the Manufacture of American Wines*, and I value it very highly indeed. And, as I have grown the grapes and want to press the juice this

fall, I want to ask you a few more questions, for fear I should make a mistake. I have three acres now in bearing, the third crop, and they are fine and healthy—mostly Concord. I have set five acres more this spring, and intend to plant five more, making thirteen acres in all; and I want to ask you if pine will answer for fermenting casks as well as oak; or could I, through you, have such casks shipped from your place, or St. Louis, as you think I will need for the present crop. I would like at least one or two 500 gallon casks furnished by you of oak, the balance I could get here. If you can furnish them please give me the probable cost, delivered here by boat or rail. Please say whether I could get along without the must scale, and if not, where I can obtain them best. I also want a press, and am not able to buy any larger one than will answer my purpose; please say where I can do the best, and also what you think I can wholesale the wine at next March, if *good*. Please answer the *above*; and if you can furnish the casks I will send you the money. I would be pleased to have any suggestions you will be pleased to make.

Very truly yours,

A. S. BONHAM.

[We do not trade in casks, but you can not do better than by addressing Mr. Tobias Weigold, whose address you will find in our advertising columns. He has furnished us with casks for years, and they have always given satisfaction. Pine will not do to keep wine in for a longer time than a few days. (See article in this number on "Wine Cellars and their Furniture.") You can not do without the must scale. y addressing Jacob Blattner, St. Louis,

and sending \$3.50, you can obtain one. The press of Geiss & Brosius, Belleville, Ills., will answer your purpose, price \$45. The price of new Concord wine at wholesale last fall has been from 80c to \$1 at Hermann; of course we cannot tell what it may be worth *with you* next spring. It depends on the quality, and the market you have.—ED.]

MEMPHIS, TENN., July 16th, 1869.

GEORGE HUSMANN, Esq. :

Dear Sir: Being a very attentive reader of your highly valued GRAPE CULTURIST, and perceiving that anything appertaining to grape culture is always welcome to you, I take the liberty to trouble you with a few lines, in a matter of great importance (at least to me).

I have started a vineyard of two acres this spring—Concord, Norton's Virginia, Herbemont and Ives—have also set out about 26,000 cuttings; do not know yet how many of those I shall save. Have spoken to some Germans here about starting on a larger scale, but they think the climate here is too hot. The land is so situated that it has the sun all day, is protected from north winds by a strip of timber running alongside of the land, is hilly, underlaid with gravel, the upper strata being a kind of reddish-white clay. Planting time is about four weeks earlier than in Southern Missouri. The thermometer hardly ever falls below zero, and during the summer months it ranges from 65 to 105 degrees in the shade.

Now, what I would like to know is this: whether, under those conditions, it would be safe, in your opinion, to go on and plant some more vines; or

would it be better to wait till after next fall (1870), when some of the vines set out this spring will bear. And, if you think it would be safe to go on, which kind of vines would you advise me to plant. I shall take your advice in the matter, and act accordingly.

Hoping to hear from you soon, I am yours very truly. JOSEPH GOODMAN.

[We do not think your climate is too hot, if you plant mostly Norton's Virginia, Herbemont, Cunningham, and Cynthiana. We would advise you to observe your vines closely this season, and plant most of those which grow healthy and free from mildew. If your soil is underlaid with gravel, it is naturally drained; unless the white clay you speak of holds water it should be well adapted to grapes. It is, of course, difficult for us to advise, as we have no experience in your region. If you plant, we would advise you to plant in fall.—ED.]

EDITOR GRAPE CULTURIST: As I have grown some grapes in my time, and also made some wine that seemed good to myself, and was so pronounced by others who were considered good judges, you will pardon me for asking the following questions, as I am anxious to know more about the names of different wines:

What is meant by a still, dry wine (I thought all wines were wet)?

What is hock, and is it of but one color?

Heavy wines mean those with most alcohol, do they not?

What is a claret, a Burgundy, or a sherry?

A sparkling wine is one that effervesces when poured out into the glass,

is it? and a still wine is a wine that does not?

In fact, the meaning of all these names will be gratifying to your correspondent, and no doubt to many others, who may be as little versed in these matters as himself.

Yours truly, MONTGOMERY.

June 15, 1869.

[Wines are generally divided into *still* and *sparkling* wines. Still wines are all those which do not contain carbonic acid; sparkling wines contain so much of it that they will effervesce and throw up bubbles when the wine is poured into glasses. The French distinguish yet another class, those wines which contain so little carbonic acid that it is only perceptible to the *taste*. They are called "non mousseux." *Dry* wines we call all those in which the sugar contained in the must has, by the process of fermentation and age, entirely disappeared.

The appellations of "Hock" and "Claret" originated in England. All *white* wines imported from Germany, especially from the Rhine, were called "Hock," an abbreviation and corruption of "Hochheimer," one of the most popular and best Rhenish wines; and all *red* wines imported from France, especially from Bordeaux, were called "Claret." Burgundy is the wine grown in the French province of Burgundy, and Sherry is, or should be, a Spanish wine imported from Xeres, in Spain.

Heavy wines are those which contain a large per centage of alcohol. Those wines which, besides a large per cent. of alcohol, also contain sugar, are called *liqueur* or *sweet* wines.—ED.]

MR. EDITOR:—I thought it my duty

to let you know how the grapes are doing in this part of Egypt. The grape vines have all made a large growth of wood and leaves, and the show of fruit was fine, but the rot has come upon them, and they are more than half used up. The rot first showed itself in small black specks, and then it came on like the blight. The whole side of a bunch would turn red at the same time, and some of the seeds started to sprout, and then it came out in red ridges, running horizontal around the grape. They are drying up and falling fast, but I think the worst is past. The Concord suffered the most; the Clinton also is affected. That is something new with me for the Clinton to rot. In the Rebecca the rot seemed to show itself in dark spots all over the grape at the same time. I suppose there is no remedy, so we must grin and bear it.

E. A. HEGEMAN.

[This has been one of the worst seasons for grape diseases we have seen, and if it is any comfort to have companions in misfortune, you can lay that "flattering unction to your soul." There seems to be no end to the rain, and we hear very distressing reports from many parts of the country. The second species of rot you describe (the one you compare to blight) is new to us. Will our friends let us know whether they have observed anything like it anywhere else?

But few varieties have escaped entirely this season. Among those which have suffered least—Norton's Virginia, Cynthiana and Goethe (Roger's No. 1)—stand preeminent, and we are glad to see our former opinion of their reliability verified again.]—ED.

BOHEMIA FRUIT FARM, July 19th, 1869.

MESSRS. EDITORS:—Would it not add considerably to the interest as well as the usefulness of *THE GRAPE CULTURIST*, if several of its friends, engaged in grape culture in different sections of the country, would report to you monthly the condition of their vineyards and anything of interest pertaining to them that may have transpired. For myself I frequently desire to know if the experience and results that I undergo are shared in by others. For instance, this month has brought us considerable rot among our Concords, while to the best of our remembrance we did not have any last year. Now it would afford us considerable satisfaction to know if the disease is prevalent in other vineyards this season, or if it is owing with us to some defect of locality or treatment. We find it both on bottom lands and on the hill, although most on the ranker vines in the lower land.

Again, we have seven rows of Diana grapes which are badly infested with the green leaf-rolling worm, while the Clintons immediately adjacent, and submitted to the same treatment, are entirely free from this pest. These are both in ground that has considerable litter on it, the middles having been planted in strawberries. Our Concords, which have been thoroughly tilled and the ground kept clear, do not afford any specimens of the worm, and hence we come to the conclusion that where the leaves of the vines are as similar as the Concord and Diana, the difference must be in the cleanliness, and hence that perfect

tilth has a tendency to do away with pestiferous insects.

We can certainly all learn something of one another, and it would be interesting, no less than satisfactory, to know if we are more or less favored than others following the same pursuit as ourselves.

We have been using the Hexamer pronged hoe for hoeing out our grape rows; and we think they must be more effective as well as much lighter to handle than your two-pronged hoe. They have six light prongs about 8 inches long, of well tempered steel, and perform their work admirably and very rapidly.

We should like to hear from some one not particularly interested in the sale of Salem vines, something relative to their progress this year, and would like to know where any number of them can be seen in bearing.

Yours truly,

EDWARD J. HIPPLE.

[Your suggestion is a timely one, and we should be happy to have such reports from all parts of the country.

The Hexamer hoe is an excellent implement, but we are not sure whether it will work satisfactorily in stiff, tenacious soil. In light soil, and for after cultivation, it would be excellent.

We think that you can find the largest plantation of Salem vines at Salem on Erie, with Messrs. Harris'. We shall try to hear something about it in time for next number.]—Ed.

AUGUSTA, MO., July 23d, 1869.

MESSRS. EDITORS: The time of grape rot being this season somewhat later than usual, it may be in time to save some of the grapes by applying the fol-

lowing remedy. Take away the earth from the roots of the rotting vines, say six inches deep; cut away all dew-roots, or robbers as they are called; scrape the rotten bark from the neck of the vine, and cover up again with dry soil. You thus stop the source of rotten sap, that first affects the leaves and then the grapes also.

Yours respectfully,

CONRAD MALLINCKRODT.

[We fear your remedy will not prove very effective. Fifteen years ago, when the practice of cutting off the so-called "dew roots" was general, we tried it on the Catawba. We had cut all the "dew roots" of a three-acre vineyard, as was then considered indispensable, except the two upper rows. In thinking about the practice, it seemed to us so unnatural that we concluded we would *not* cut them on the two rows mentioned. The vines in these two rows grew more vigorously, did not rot as much as those of which the roots had been cut, and are yet much the best in the vineyard. Many flourishing vineyards in the neighborhood of Hermann have been entirely ruined by their owners' perseverance in this time-honored practice, and all *successful* vintners there have abandoned it. Especially with the Concord we should consider it damaging in the highest degree, as that variety forms nearly all its roots near the surface, and you cannot force it to root down in the cold, stiff soil. However, "there is nothing like trying," and we are obliged to you all the same; would even recommend our readers to try your remedy on a small scale and report results. We do not believe that there is such a thing as "rotten sap," nor that the sap can circulate through

the outer bark. If you cut through the entire bark it may have the effect of checking rot, by checking the circulation of sap altogether. We shall return to this subject of *ringing* and checking sap in a future number.]—Ed.

LAWRENCE, KANSAS, July 23d, 1869.
GEO. HUSMANN, Esq.:

Sir:—I take the liberty to write to you for information concerning the whereabouts of pasteboard grape box manufacturers, thinking doubtless you are posted. Any information concerning the above will be gratefully received by the undersigned.

There is an immense yield of grapes in this vicinity. The rot is among the various kinds, Concords not excepted. My vineyard in bearing consists of about four acres of Concords, four years old, trellised on wire.

Hoping to hear from you soon concerning the boxes, I remain yours truly,

B. P. WALLING.

P. S. Do you know of a weekly or monthly publication better adapted to the wants of the fruit grower than the *American Agriculturist*?

B. P. W.

[Can any of our readers enlighten our correspondent about pasteboard grape boxes? We confess we do not know of any, nor do we think them practicable, as the pasteboard does not afford resistance enough.

The *American Agriculturist* is an excellent paper, but almost too far East for you. You will find many valuable hints on fruit growing West in the *St. Louis Journal of Agriculture* or the *Rural World*. We send you the *GRAPE CULTURIST*, and trust you can find something in it worth knowing, in our particular line.]—Ed

WE understand that a joint exhibition of the Missouri State Horticultural Society and Mississippi Valley Grape Growers' Association will be held at St. Louis on the 8th, 9th and 10th days of September next. We are not yet informed of the particulars, which will be determined in a meeting of the joint Committees of Arrangement, to be held on the 6th of August next, to which all the florists of the city are also invited.

OUR CLUB RATES.—To any person who will send us \$8 00 we will send five copies of the *GRAPE CULTURIST*, for one year, to such address or addresses as he may designate.

Any one of our friends may thus, by a little exertion, form a club in his neighborhood, and obtain his paper free.

By special agreement with the publishers, we are enabled to club the *GRAPE CULTURIST* with either the *Journal of Agriculture* or *Rural World*, at \$3 00 per annum, and will, should any of our readers wish it, try and effect a similar arrangement with any of the horticultural or agricultural journals in the country.

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LOCKPORT, N. Y.

HAVING purchased of Mr. T. L. Harris, of Brocton, N. Y., his entire stock of Salem vines for transplanting, and also the wood for propagating from his Salem vineyard of thirty acres, I shall be prepared to furnish to planters and dealers, for the fall of 1869, a large and superior stock of this celebrated Grape, described by Mr. E. S. Rogers, the originator, as "the best of his entire collection," being "a Hybrid between a native and the Black Hamburg; bunch large and compact; berry large as Hamburg; of a light chestnut or Catawba color; thin skinned; perfectly free from hard pulp; very sweet and sprightly, with a most exquisite aromatic flavor; as early and hardy as Delaware and Hartford."

At the last Annual Fair of the "Lake Shore Grape Growers' Association" this variety was awarded the *first premium*. Dr. Parker, of Ithaca, N. Y., last fall had bunches weighing over one pound each.

This grape was first numbered 22, in Mr. Rogers' collection, but a spurious sort having been sold as this, he changed the number and then gave it a name. Our stock is guaranteed genuine, being derived entirely, through the hands of Mr. Harris and Miss Waring, from Mr. Rogers himself.

I shall furnish superior vines of Salem, for fall planting, at reduced rates, and feel certain that it will now be planted largely in vineyards. Also for sale, *very low*, a large stock of all new and leading varieties, comprising Delaware, Concord, Hartford, Ives, Iona, and the best numbers of Rogers' Hybrids. Also, Eumelan, Martha, and Walter.

Circulars furnished on application.

I. H. BABCOCK, Lockport, N. Y.

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Concord, Ives, Delaware, Hartford, Iona, Catawba, Isabella,
Clinton, Rogers' Nos. 4, 15 and 19, etc.

Cut from Bearing Vines before hard freezing, and stored in frost-proof Cellars.

Very Low for Cash. Price List Gratis.

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
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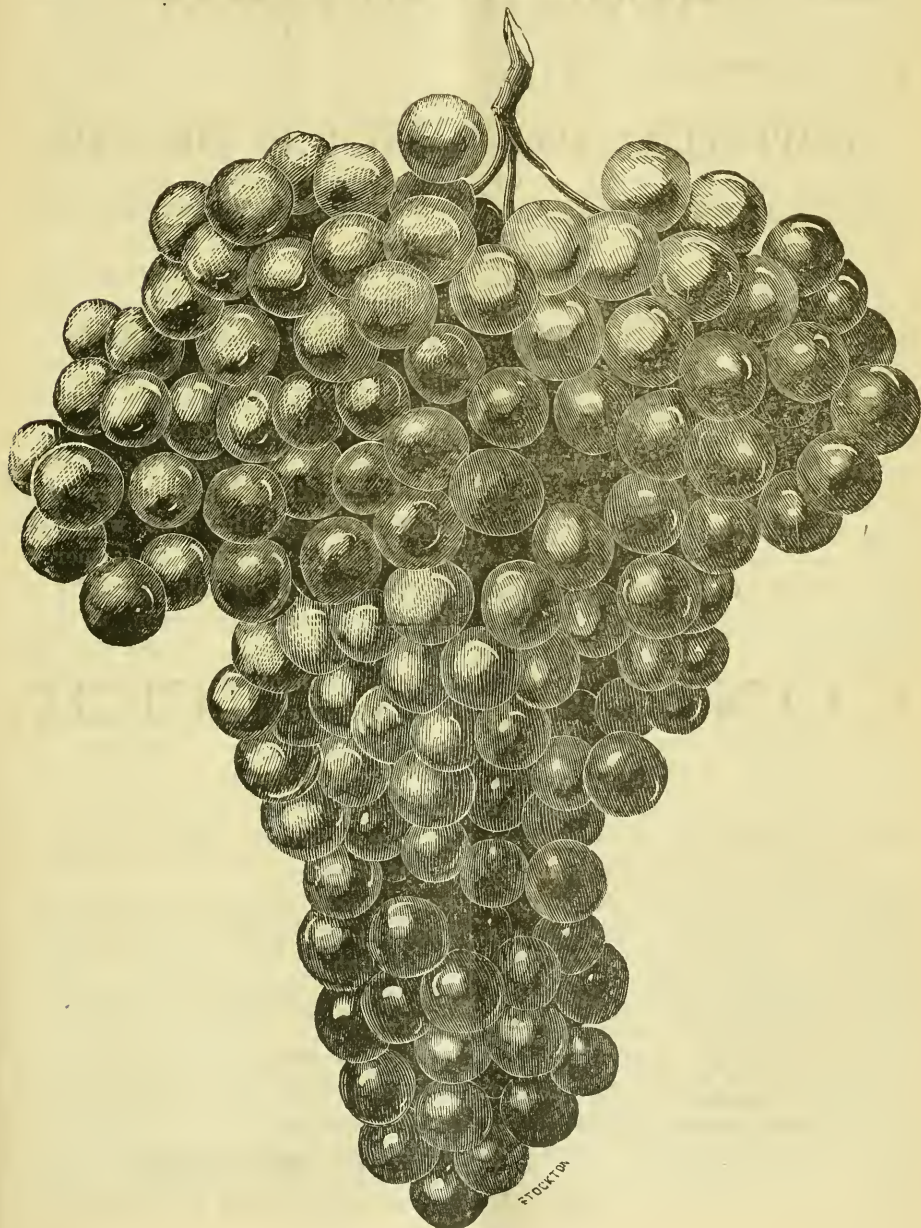
122 S. E. corner Walnut and Second Sts., St. Louis.

THE GRAPE CULTURIST.

Vol. I.

SEPTEMBER, 1869.

No. 9.



THE HERBEMONT GRAPE.

THE HERBEMONT GRAPE.

Synonyms—Warren, Warrenton, Herbemont's Madeira.

We present our readers with an excellent illustration of this valuable grape this month, and give a short description of it, to which we add some remarks on its origin, gathered by our friend Flagg.

Bunch very compact and heavy, generally shouldered; berry below medium, somewhat smaller than Catawba, round, black with blue bloom, very juicy, sweet and vinous, without pulp, skin very thin, containing no astringency or tannin; vine a strong grower, healthy and very productive in suitable locations, with beautiful, deeply-lobed, light green foliage. It is peculiarly adapted to southern slopes and limestone soils, where it will be one of the most profitable varieties. It starts late in spring, and consequently is seldom damaged by frost. Ripens a few days after Catawba.

THE HERBEMONT GRAPE.

The interesting facts furnished by JOHN G. WERTH in the June number of the GRAPE CULTURIST, remind me of some accounts of the Herbemont that I have happened upon in my reading, which may be new to some of your readers, and possibly not noticed by the author of the article in question. They lead to the same conclusions at which he has arrived.

William R. Prince, in his Treatise on the Vine, published in 1830, gives the earliest account of this grape that I have seen; apparently he had re-

ceived the same grape from different sources, and accordingly describes *Herbemont's Madeira* and *Warrenton* in ignorance of their identity, and with such vagueness as to show that he had not much idea of their characteristics. *Herbemont's Madeira* he had received from Mr. Herbemont, and *Warrenton* from T. McCall, of Georgia.

The account of this grape given by Mr. N. White in his report of the Committee *ad interim* of the Pomological Society of Georgia in 1857, (*Horticulturist*, 1857, p. 459), is worth reading in this connection.

"*Warren*," (*Warrenton*, *Herbemont's Madeira*).—It is pretty well established that this vine was first cultivated by Mr. Neal, a farmer of Warren county, of this State, living four miles from Warrenton, at least as early as the year 1800. In the early settlement of the country he found the vine in the woods near his new residence, and transplanted it. Its productiveness and unequalled flavor attracted attention, and soon it became cultivated in Warrenton, and under the name of Warren and Warrenton, soon spread over the States, [State?] where it is now more cultivated than any other grape. In 1805 the late Professor J. Jackson (formerly of Athens,) found it growing under the name of Warrenton, (from whence the cuttings were procured,) at the farm of A. M. McWhatty, in Jefferson county; and when he settled near him, Mr. J. procured cuttings

from Mr. McWhatty's vine and commenced its cultivation himself. In 1811 or 1812 Mr. Jackson carried cuttings to a relative in Laurens county, where the well known vine grower, Mr. T. McCall, of Dublin, first saw it in bearing. Obtaining it, he planted a vineyard, about 1816, and in 1819 or 1820, Prof. Jackson spent a day with Mr. McCall, and drank with him his Madeira, made from this grape. About a year later, Prof. Jackson sent to his brother, in this place (Athens), rooted plants, from which most of those now cultivated here were derived. We believe the Herbemont identical with this vine, as vines in Clarksville, Ga., from Herbemont (also one obtained by Mr. Caman from Herbemont himself, while living, which is still in bearing,) prove nothing distinct from Warren. As the latter name indicates the origin of the vine, and as under this name and Warrenton, it was widely cultivated at least twenty-five years before known to Herbemont, and as it is still known as Warren by nine-tenths of those who raise it, the name Herbemont should be dropped.

White, in the report quoted from, classes this grape as a variety of *Vitis æstivalis*. P. J. Berckmans, in his catalogue for 1868-9, classes it with the same species, and gives the time of its ripening at Augusta as "middle of August." This agrees with Prince's description of the Warrenton as ripening "from the 10th to the 25th of August."

White and Berckmans both speak of this grape as quite subject to rot in Georgia, but I have never known anything of the kind to affect it here in the West. Have you, Mr. Editor?

W. C. FLAGG.

[We have seen a kind of rot in the Herbemont, which affects it like a blight, and attacks only parts of the vine, while other parts escape entirely. It comes when the berries are very small. The leaves show yellow spots like sun-scald, and the young berries turn black and shrivel up. It is entirely different from the different kinds of rot which attack the Catawba, etc., and has never been very destructive with us.—Ed.]

THE VINEYARD.

WORK FOR THE MONTH.

This will be mostly confined to wine making, as the Hartford, Delaware, Concord, North Carolina Seedling, and many others will have to be gathered this month.

It will assist the ripening and swelling of the fruit very much if the vines are hoed and plowed once more, so that the ground may be in a condition to absorb all dew and moisture.

Shade the fruit wherever you can, so that it can ripen fairly. By loosening a young cane now and then and tying it over the fruit, you can assist wherever the leaves may have dropped, which is frequently the case this year owing to mildew on the leaf.

In a separate article we shall give a few hints on wine making.

A FEW HINTS ON WINE MAKING.

BY THE SENIOR EDITOR.

It has been our fortune, during a practice of nearly twenty years, to serve an apprenticeship in American wine making, which commenced at the rudiments of the art; and we well remember how careful we would be to pick our grapes, to get them thoroughly ripe, to keep out all dew or rain, and the doleful looks we would cast upon our imperfectly ripened grapes, as we did not think it possible to make *good*, drinkable wine from them. But fortunately those days are past, and we often think of them with mingled pity and amusement. Thanks to the teachings of Gall, Chaptal, and Petiot, we can now make good drinkable wine every year.

But, during this practice, we found that different grapes require different treatment, almost as varied as the grapes themselves. To elucidate this we would once more briefly allude to the definition of *bouquet* and *aroma*, as already explained in the "Chemistry of Wine," by our co-editor, Mr. Frings.

Aroma is the flavor peculiar to the variety of grape, for instance the foxy flavor so very perceptible as to be disagreeable in some of our grapes, especially the Northern Muscadine, Perkins, Hartford Prolific, and even in the Concord and Catawba.

Bouquet is developed during fermentation by the action of the alcohol upon the acids. If the grape contains but little acid it can not develop much bouquet, nor can it be developed if the must does not contain sufficient

sugar to be changed into alcohol during fermentation. These simple facts we must keep before our eyes, as they are the most important guides in wine making.

We have some varieties of grape which will make so-called *aromatic* wines, that is, the aroma of them is most pleasant when fully developed, which it can only be by thorough ripening of the fruit. In this class we can include the Creveling, Cynthiana, Arkansas, Hermann, Norton's Virginia, and perhaps Clinton and Ives. We should therefore let these ripen thoroughly, if we intend to make the best wine they can produce; and for this reason, we think, those living in northern latitudes, with shorter summers, will never be able to make as good wine from them as those living in latitudes where they can thoroughly ripen and shrivel on the vines.

Other varieties we have which contain aroma *in excess*, and where it is desirable to have it in as slight a degree as possible, and to develop bouquet instead. We can best attain this by gathering the fruit when not so ripe, as the aroma is not so fully developed. Should the must not contain sugar enough, it must be added; and should the grape contain a surplus of acid, we can ameliorate it by adding water.

Among the varieties which will make the best wine, if treated thus, we will name the Concord, Cassady, Catawba, Cunningham, Delaware, Diana, Hartford Prolific, Herbemont,

Louisiana, Maxatawney, Martha, Goethe, Massasoit, Wilder, Lindley, Agawam, Merrimack, Salem, Rogers' Nos. 8 and 12, Rulander, Taylor, and Telegraph.

This may appear rather startling to some of our readers, and for a long time we believed that it was necessary to ripen all grapes thoroughly to make the best wine from them. But "experience is the mother of wisdom." We never made better Concord, Catawba, and Herbemont, than in the season of 1865, when the summer was somewhat similar to the present one, when no grape ripened thoroughly, and our Concord must did not average more than 65°, Catawba not over 60°, and Herbemont not over 75°. By adding a gallon of water to the gallon of must, and sugar enough to bring the whole mixture to 80°, we made a wine which we have not been able to surpass since, nor come up to it. The Herbemont was pronounced by the best judges in the country the finest American white wine they had yet tasted. Our Norton's Virginia, however, made that season, though a fair article, was much inferior to the vintages of 1866 and '67. Delaware made that season, from half ripe grapes, was valued at \$6.00 per gallon within six weeks from the time it was made. It was a perfect wine then, clear and fine, and with an exquisite bouquet. The Concord was without the offensive foxiness, and contained acid enough to be a very palatable wine, the best we have been able to make of that grape since.

In wine making we must always remember, that we have *no perfect* grape as yet; that grapes will, in dif-

ferent seasons, yield entirely different products, and that only *thinking, practice, and experiments* will teach us how we can best improve it.

In making the wine we think it best now, after our experience of last season, to ferment each variety on the husks until the wine becomes perfectly clear and finished. Fermentation will draw out all wine making ingredients, as acid, sugar, tannin, flavor, etc., and the husks be perfectly tasteless. We shall therefore leave it in the fermenting vats until the beginning of December, then draw it off and press the husks. We can not give the proportions, as they will vary with the variety of grape we have to deal with, and its inherent qualities.

Fermentation should be rapid and thorough, and the fermenting room be kept at an even temperature of 65° to 70°. Should it not be warm enough, the room should be heated by a stove. Beware of cold cellars for young wine, they will retard fermentation, and you will have continued trouble. Your wine should be clear, and all the sugar changed to alcohol, in three months from the making.

We hope we need not tell our readers that all their utensils, pails, vats, casks, etc., should be perfectly clean and sweet. A sloven has no business to be a grape grower, much less a wine maker, and does not deserve success.

We can, of course, give only *general* rules, but we hope that they will be sufficient to enable all of our readers to make their wine. They need not expect that they will reach the climax at once; it will take long years of patient study and experiment to produce the *best* wine a grape is capable

of yielding. We do not pretend to know *all* about it; on the contrary, the more we learn we see only the more clearly how little we yet know. But we have made some good wines in our day, and do not fear any more that we will make a really poor

article. If these hints will enable our readers to do the same, we shall think ourselves richly repaid; and if they will, now and then, send us samples of their skill, we will try and give them our opinion and advice about it.

NOTES ON GRAPES FOR 1869.

Editors Grape Culturist:

The present season, by reason of excessive rains, accompanied with much cold and a very variable temperature, seems to be unusually unfortunate for grape growers in most, if not all parts of Ohio. Nearly all varieties have suffered from either mildew or rot, and some from both combined. Accounts from the Lake Shore region indicate that one-fourth of a crop of Catawba grapes will be as much as can be looked for. Here, in Central Ohio, there are no extensive vineyards, but an examination of different varieties, as grown in my own grounds and elsewhere, affords a fair opportunity for obtaining comparative results.

Most of Rogers' Hybrids have shown both mildew and rot the present season, but none as badly as Catawba. Those most exempt are Goethe, No. 5, Wilder, No. 28, No. 30, and No. 33. Agawam, or 15, rots from one-third to one-half. Delawares show some mildew, but no rot of any consequence. Union Village and Israella mildew somewhat, but show very little rot; Iona mildews rather less, but rots a little more, perhaps one-fourth of the crop. Concord, Hartford, and Ives perfectly free from mildew, but rot from one-fourth to one-third, depend-

ing somewhat on location. Martha perfectly healthy in foliage and vigorous in growth, but rots about one-fourth—somewhat less than Concord.

From the experience of the present season I am satisfied that the Martha may be relied upon in all locations where the Concord succeeds; and in seasons when the Concord would suffer, I should look for the Martha to do the same, as their habits of growth and general characteristics are almost identical.

I think the present season also demonstrates that mildew, or *oidium*, and rot are entirely distinct diseases, and not at all dependent one upon the other, for I find in some cases apparently perfectly healthy fruit, wholly free from rot, upon vines with foliage badly mildewed; and in others perfectly healthy foliage with more or less rot in the grapes. In others still mildew and rot both prevail.

The early part of the season, during May, June, and the forepart of July, the rains were excessive beyond any similar period within my recollection, but since the 27th of July to the present time we have had no rains, and the grapes remaining are looking much more promising.

GEO. W. CAMPBELL.

DELAWARE, O., August 12, 1869.

A NATIONAL WINE GROWERS' MEETING.

Editors Grape Culturist:

The American Pomological Society holds its next regular meeting in Philadelphia, on the 15th of September next. That society legitimately has nothing to do with wine making, or discussing the comparative values of grapes for wine making, yet at its meeting there will be a large number of gentlemen whose main interest in the society is predicated upon the grape as one of the fruits for the society's discussion; and I therefore suggest the policy of, at that time, forming a National Wine Growers' Society, to which all those who are engaged in making our native grapes into wine, as well as the growers

of the grape, are invited. What say you, Messrs. Editors? ADDL.

[We like your suggestion; the only difficulty we see is, that but few grape growers from the West will find it possible to attend the American Pomological Meeting, as it will come just in time for wine making. It would be of advantage to the wine growers of the country to meet occasionally, and compare notes, samples of wine, etc., although we think that State and local societies can do even more to foster the interests of grape growers. Our experience has taught us that it is very difficult to get people together, even for those meetings; how much more, then, for a national gathering.—ED.]

For the Grape Culturist.

SENDING VINES BY MAIL.

Mr. Editor: Is it as well known as it should be what can really be sent by mail? I will give you an instance perhaps worth repeating: In passing through an establishment one time the agent showed me a box, which he said was directed by express to a customer some six or eight hundred miles off, while the order was to have it sent by mail, accompanied by money to pay the postage. I remarked that would cost him three dollars at least express charges. But the foreman said it could not be sent by mail. I requested the agent to give me the box, and in an hour I would return him the vines in a form fit for the mail-bag. And I did return it. It cost 28 cts. postage; and in a few weeks thereafter we had the pleasure of hearing a letter read from the recipient of said package, wherein

he stated that he never in all his dealings received a bundle neater got up, or the plants in better order.

Now, in that package were twelve strong one year old vines, some of them were very large for their age. What I wish to impress on the minds of dealers is, to make use of the U. S. mail-bag wherever it can be done, which is limited to four pounds in one package. Over this we are obliged to submit to the extortion of the express companies.

Will you tell your readers how such packages should be put up? Or do you wish me to do it for next number of the *GRAPE CULTURIST*?

Yours truly, MONTGOMERY.

[We think friend Miller will do our readers a favor by giving his method of packing, so that they can profit by it.—ED.]

THE LEADING VARIETIES AT SANDUSKY AND THE ISLANDS.

BY M. H. LEWIS.

As we have now nearly passed the time of possible injury to the grape crop from rot, that greatest scourge with us, I may safely attempt to forecast the gains and losses for the coming fall.

Early in May rains began, and have had little cessation since. We have now, the 12th of August, the first seven days' respite for over four months. More rain fell in May than for the same time the past ten years. During the very height of our blooming season, from the 18th to the 27th of June, inclusive, we have to report a rain fall of 6.90 inches. Accompanying such wet weather during May, and even till mid June, was remarkably low temperature—in fact, as late as the 10th of June there was narrow escape from frost on our shore. But the latter part of this month had many hot days, the sun ablaze, and the air murky, close.

The vines of all varieties made strong growth, and though very late, bloomed heavily and so well timed as to quite generally escape great injury from dashing showers. The Norton was especially an exception; for, when in full flower, a succession of heavy rains washed away the pollen, and the whole crop, nearly, in this way was blasted in a day. For the Catawba, which filled all with high hopes by its full setting, there was calamity in the air. As last year, following those wet and hot days, mildew suddenly developed upon the berries, now shot size, and in many cases swept off two-thirds,

and in most from one-quarter to one-half the crop of this variety. The affected parts were at first a gray and then a brown, speedily withering upon the stem; the leaves not generally affected with mildew in the least; and it was commonly noted that during all this excessively wet weather there was unusual freedom from mildew upon the young shoots and foliage of this, and even of the kinds usually most subject, as Iona, Isabella, etc.

Kelley's Island, Put-in-Bay and Middle Bass Island have suffered severely from both mildew and rot. But Point-au-Pelee, Catawba Island, the Peninsula, and the stiff clay vineyards of the main land, have much less reason to complain. Many in these localities will harvest a fair crop of Catawbas. The black soils of the main land will scarcely yield half the cost of attendance.

The story of the other varieties is quickly told. The Isabella met loss early by mildew in the bunches, but will yield well. The Concord, Ives and Delaware have been anxiously watched, as generally among cultivators here these have been looked upon as supplanters of our main planting, the Catawba. The Concord has lost only slightly by mildew, somewhat more by rot. Some few, indeed, have a sorrier tale to tell of it, but the average crop is good, and confidence in it is increased.

The few vineyards in bearing of Ives realize all or even more than was expected of them. They did not mildew, nor so far rotted, but the bunches would have been fuller but for the rains

while in bloom. The Delaware shows handsomely—no rot, no mildew of leaf or of bunch. Still we do not feel safe of its crop till time of ripening, as it may blight later in leaf, and so fail in carrying through its present burden of fruit.

The Hartford affords every cultivator full satisfaction. The Iona makes no show yet with us worth the mentioning. The Clinton shows no disease nor detriment of any kind from the unfavorable

weather. It will be planted much more largely, for it is proving reliable, and its wine increases rapidly in public favor.

Most of the best Nos. of Rogers promise well. Of the newer sorts, none have taken so well as the Martha. I have six vines in bearing, and the numerous and perfect bunches please every beholder. Salem vines planted at same time with quite as strong growth, show no fruit this first bearing year.

SANDUSKY, August 12, 1869.

WINE—ITS USES.

BY E. S. BARTHOLOMEW, WESTFIELD, N. Y.

Wine is the fermented juice of the grape; the juice of certain fruits, prepared with sugar, sometimes with spirits, etc., as currant *wine*, gooseberry *wine*. Our first knowledge of wine, gained from the Sacred Writings, was that made from the Asiatic grape (*Vitis Vinefera*), used by the ancient Hebrew, and now called the European grape. But our more immediate and intimate knowledge of *wine* has been gained from the fermented juice of the American family of grapes, as *Vitis Labrusca*, *V. Cordifolia* and *V.estivalis*. The condition and elementary quality depends very much on the variety and ripeness of the grapes used. *Wines*, according to their color, are divided into *red* and *white*; and, according to their taste and other qualities, are either spirituous, sweet, dry, light, heavy, sparkling, still, rough, or acidulous. The juice of *ripe* sweet grapes consists of a considerable quantity of grape sugar, a peculiar matter of the nature of yeast, a small per centage of extrac-

tive, tannic acid, a trace of malic acid (the acid of apples), bitartrate of potassa, tartrate of lime, chloride of soda, sulphate of potassa, and a very small per centage of phosphoric acid, dissolved or suspended in a large proportion of water. Some varieties of grapes contain in addition a peculiar acid isomeric with tartaric, called *paratartaric acid*. Grape juice, therefore, embraces all the ingredients necessary for the production of vinous fermentation, requiring only the presence of the atmosphere and a proper degree of temperature to convert it into *wine*. The other qualities of wines, other than color, depend on the relative proportions of the constituents of the must, or juice, and the manner in which the fermentation has been conducted. If the must be *very* saccharine, and contain sufficient ferment to continue the fermentation, the conversion of the saccharine into alcohol will continue until checked, and there will be formed a *generous wine*. The alcohol thus

formed consists of four parts of carbon, six of hydrogen, and two of oxygen. If the fermentation is carried too far, the alcohol loses two parts of hydrogen through the influence of the atmosphere, and becomes *aldehyd*, composed of four parts carbon, four of hydrogen, and two of oxygen. This, by the absorption of two parts of oxygen from the air, becomes hydrated acetic acid. The result of the vinous fermentation of the must is a true *wine*, and consists principally of water, with a varied percentage of alcohol, in combination with volatile oil, oenanthic ether, grape sugar gum, extractive, coloring matter, tannic, malic and carbonic acid, bitartrate of potassa, tartrate of lime, and phosphate of lime. The volatile oil has never been isolated, and is supposed to produce the delicious flavor upon the palate; and, united with oenanthic ether, the delicate odor called *bouquet*, which is perceived by the organ of smell. The alcohol in pure *wine*, resulting from vinous fermentation, is so intimately blended with the other constituents as to be in a very modified state, which renders it less intoxicating and injurious than the same quantity separated by distillation and diluted with water. Wines being largely used as a beverage, as well as medicinally, we will examine the elements as they affect the human system. Alcohol is a powerful diffusive stimulant. In a diluted state, it excites the system, rendering a full pulse, gives increased energy to the muscles, and temporary action to the mental faculties. Dr. Wood holds "that the alcohol of wine, besides furnishing some nutriment, acts by promoting digestion, thus causing a more thorough appropriation of food to nu-

triment; that the saving thus effected more than repays the waste of the tissues implied by increased vital action." Tannic acid is a powerful astringent; is used in treating active hemorrhage; in diarrhea, as it is less liable to irritate the stomach and bowels. Malic acid is a refrigerent, and is used as a cooling drink in febrile diseases. Carbonic acid, mixed with water, is a diaphoretic, diuretic, and anti-emetic. It forms a cooling drink to febrile patients, allaying thirst, lessening nausea and gastric distress. It is also used in dysmenorrhea with the most soothing effect. Bitartrate of potassa (cream of tartar) is cathartic, diuretic, and refrigerent. In its tendency to excite action of the kidneys, it is much used in dropsical affections. Phosphoric acid is an element that enters largely into the composition of all animal tissues. Without phosphorus there is no thought—more than this, without phosphoric acid there is no life. When we think we die; every effort wastes away phosphorus. From the above we find that there are but very few persons that are not more or less benefited by the *temperate and judicious* use of *pure wines*. In a humid climate like that of England and the adjoining islands, a too free use of strong wines, like the red wines of Burgundy and the Port wines, containing a large percentage of alcohol and tannic acid, no doubt will produce a weakness of the stomach, disease of the liver, and gives rise to effusion, gout, apoplexy, and not unfrequently mania; while the drinking of the light hock wines, or what are known as sour wines, will produce no such result. In a hot, dry, and changeable climate like

ours, where every department of the system is taxed severely, wines may be used with very beneficial results, *if not indulged in to excess*. In miasmatic districts, subject to febrile diseases, the use of wine is almost a necessity, the alcohol arousing the energy, thus increasing the force of circulation, producing heat; the acids destroying the miasmatic cryptogams, the spores of which are inhaled with the atmosphere, enter into the blood, feed upon and grow by using up the vitalized principle, thus producing fever, chills, etc. Wine, when used medicinally, or as a beverage, should be *positively pure*; otherwise it will disagree with the stomach, and prove detrimental, rather than useful. Delaware wine, when in good condition, is a fine wine, and, as it contains very little acid, it is to be preferred whenever the stomach is delicate, or has a tendency to dyspeptic acidity. Good Catawba or Herbemont are the most generous of our white wines, particularly adapted to the purpose of resuscitating debilitated constitutions, and sustaining the sinking energies of the system in old age. Clinton, Norton's Virginia, and that

class of wines, so nearly resembling Port wine, can be used in cases of *great* debility, especially when attended with a loose state of the bowels, unaccompanied with inflammation. In such cases they act as a powerful tonic, as well as a stimulant, giving increased activity to all the functions, especially digestion. Concord, like Claret, is much less heating, and is useful on account of its aperient and diuretic qualities. Champagne can be used in the sinking stage of low fevers, also useful in the debilitated condition of the aged. The constant overstrain of the American people upon the brain and nerve force from incessant application to business, the *hurried manner of eating*, not properly masticating and mixing the saliva with the food, irregularity of habits, brings them more or less under the influences of one or more of the diseases for which the use of pure wines is rendered necessary. In their absence, resort is had to distilled liquors, ale, beer, etc., all of which from being more or less drugged—poisoned—are *directly injurious and dangerous in their use*.

WESTFIELD, N. Y., July, 1869.

From "Three Seasons in European Vineyards," by Wm. J. Flagg.

WHAT SHALL WE DRINK ?

The American people is in want of a drink. A nation has transplanted itself, but not its vines, from one hemisphere to another, and is thirsty. It is as important what we drink should be adapted to our climate, our tempera-

ment and institutions, as it is we should hold correct opinions on this, that, and the other subject. In fine the liquor to mix daily in our blood, to act on our nerves, nourish our tissues, and qualify the vitality of every part of us, will con-

trol our destiny as much, at least, as what we learn in schools, read in newspapers, or hear from pulpits.

What shall we drink? It will not answer in these days, with the deplorable results we have before us of the evils of water-drinking on one hand, and the evils of spirit drinking on the other, to point to the springs and brooks, rivers and lakes, saying, "Share with the frogs and fishes, and four-footed beasts, the abundant washings of the earth's surface; there is enough for all."

We live in a dry climate, and under moral conditions exciting and exhausting to body, brain and nerve. That climate and those conditions have already, in the absence of any proper corrective, created a national temperament that responds with excessive sensibility to every exciting cause. The pale, bony woman, who paralyzes her insides with unstinted draughts of liquid ice, and the restless, nervous man, who consumes his with draughts equally unstinted of liquid fire, are types alike of our wretched conditions as a people. Dilution will not save us. Says my scientific friend, Doctor —: "A low dew-point (dry air) and Republican institutions are inconsistent with the long duration of our race."

Now, we don't want to pull down Republican institutions, nor can we raise up the too low dew-point. We must raise red wine, then; and this can be done, I will endeavor to prove, as easily and cheaply as in Burgundy, where it is to be had of good quality for four, five, and six cents a bottle.

Taken in the quantity of a quart daily for every adult, and a pint daily

for each child, we may expect the following results: It will slightly stupefy, and thereby soothe and quiet; gently elevate, and thereby promote gayety, and chase anxiety and care; warm the heart, and at the same time stimulate the flow of ideas, whence will come sociability, politeness and toleration, elegance and good taste. It will prevent and cure dyspepsy, the most American and the least French of all diseases that scourge the world; in fine, by virtue of its tonic and stimulating properties, touch every weakness for which tonics and stimulants are prescribed; not, however, as a medicine, to lose its power with use, or be followed by reaction, but as a continuing condition—a habitual alimentation, like pure air, nourishing food, exercise, and proper clothing.

[We fully agree with the sentiments expressed in the above, with the single exception that we do not wish to see wine come down so six cents a bottle; nor do we need it. With the immensely better wages the American laborer earns, he can afford to pay more liberally for his daily drink and provisions. But let him be enabled to obtain a bottle of light wine at fifteen to twenty cents, inclusive of bottle, and he can afford to drink it daily. When we pay our vineyard laborers \$20 per month and board, we cannot afford to sell our wine at twenty-five cents per gallon. But let the price of wine be proportionate with the wages. Six cents per bottle is as high a price to the poor French or German laborer as twenty-five cents would be to the American workman.—ED.]

Extracts from a Lecture by Prof. Bechi, of Florence.

THE VINE IN EUROPE—MANURES.

In the treatment of vineyards, three systems are followed: In some localities, no manure at all is used; in others, nitrogenous matters are employed; while in others the manure applied is derived from various organic elements—wine pomace, etc. Before discussing the respective value of these systems, let us examine what the grape needs most—that is to say, what it takes from the soil.

If we take a vine in its normal condition—that is, growing in an appropriate soil—and if we analyze the ashes obtained from all its parts and products, we find that potash is the predominating element. And it cannot be contended that its occurrence is fortuitous, for it is, on the contrary, not only useful but essential, since it is demonstrated that grapes grown in a soil deprived of potash never thrive, and ultimately perish. This indispensable element may be replaced to a certain extent by others, such as lime or soda, but never completely. Calculations made in Tuscany have brought out the fact that the wine raised in that province deprives the soil, annually, of about 60,000 pounds of potash, to which large amount we must add the quantity absorbed by the other parts of the plant—canes, leaves, etc. The whole amount of potash thus taken from the soil by the grape, has been estimated at about 56 pounds per acre.

FIRST SYSTEM—NO MANURES.

In places where no manure is used,

as in the Sicilian province of Catane, a thorough tillage is said to replace it; but this extra tillage simply brings the soil in more intimate contact with atmospheric agents, causing the silicates of potash to dissolve and assimilate more rapidly. This exhausting mode of culture will in time deprive the soil of its last vestige of potash. It is sufficient to only know the number of vines to the acre, and the composition of the soil, to foretell exactly the duration of the vineyard. The no-manure system, then, may seem excellent at first sight, but it surely brings on exhaustion and ruin for our successors.

SECOND SYSTEM—NITROGENOUS MANURES.

It comprises stable and outhouse manures, horn shavings, woolen rags, or other substance chemically prepared.

It is a well authenticated fact that, under the action of nitrogenous agents, the grape grows more luxuriant, its leaves are larger, its product increases in quantity. But the fruits of vineyards so manured have an acknowledged defect—they impart to the wine a flavor which recalls the kind of manure applied. An instance can be cited of an Italian vintner who, twenty years ago, acted on the unlucky idea of manuring one of his vineyards with night soil. Up to this day the wine still retains the empyreumatic odor peculiar to the manure used, and the vintner has to manufacture it apart from the rest.

(To be continued.)

CAUSES OF FAILURE IN GRAPE GROWING.

III.—INSUFFICIENCY OF CAPITAL.

BY ISIDOR BUSH.

Do I desire to discourage men of small means from grape-growing? By no means. Do I not know that the vintners of Europe, as a class, are a very poor, yet a happy people? Nay that most of *our* successful grape-growers *here*, in Missouri and Illinois as well as on the Lakes, were poor when they commenced planting vineyards? that old Mottier, Father Muench, the Poeschels, Harms, as well as the editor of this journal; in fact, most of the pioneers of American grape-culture, have commenced comparatively without any means at all. Well do I know it; just as well as you probably know that an Astor, a Girard, a Lawrence, a Steinway, and others, became the immensely wealthy merchants, the rich bankers, the large mill owners, the great piano manufacturers, etc., from a very small beginning. But who knows not also of the thousands that failed in the same branches of business from insufficiency of capital? Who doubts but that those same men would warn you from embarking in the business in which they were so eminently successful, without sufficient means to carry it through? Moreover, there is a great difference between starting in any branch of industry when it is new, in its infancy, and when it has become an established business of the country. In the former case the dangers of failure from inexperience are by far greater, and the most sagacious and skillful only will be fortunate enough to overcome

its trying difficulties; in the latter case, the path to success is by far smoother, but the profits are smaller, and competition makes greater efforts and larger capital necessary.

And suppose my remarks will deter some persons who contemplate planting grapes from undertaking it, what of that? They will not buy the number of vines from you, or me, or some other nurseryman, it is true; but they would have deterred ten times their number had they commenced it and failed. While, as it is probable, persons who intended planting will do it anyhow, but may be induced to plant *less for the present*, and doing so, will carry through that little successfully, and then by their success will increase the number of grape-growers tenfold; for nothing is more effective in making propaganda for a business than success. Let one man find it profitable, and scores of his neighbors will be quick to find it out, and to make him competition; let one man fail in it, no matter from what cause, and it will discourage hundreds.

Moreover, as everybody knows that grapes will not yield a return before the third summer after planting, and some not before the fourth summer, and as even the most favorable calculations of the cost of preparing the soil, planting, setting posts, trellising and cultivating, do not fall short of several hundred dollars per acre, it need not be feared that persons *without* capital will think of planting vine-

yards; except as tenants, where the owner of the ground furnishes all the necessary outlay. Finally, the true grape-grower plants the vine for the *love of it* as much as for profit, as the true florist plants and cultivates flowers.

Thus I fear not that my warning voice about failures in grape-growing will diminish the ranks of its votaries, but do hope that it may save them some sad disappointments, which some glowing reports and over-sanguine calculations have caused.

The amount of capital required for vineyard culture is usually considered to be equal to the cost of *one* acre of vineyard during its first three years, before it yields a return, multiplied by the number of acres we desire to plant. The first question asked is therefore, how much an acre of vineyard would cost? In vain do we look for a careful calculation of such cost in the works and articles on grape culture. Fuller, Phin, and many others entirely ignore this question; Harazthy gives his total expense of planting and cultivating one hundred acres of vineyard in California (1858-1860) at \$4,019.64, or *forty dollars only* per acre!!* In Knowlton's "Our Hardy Grapes," an estimate of the cost of one acre of vines during the first three years foots up to the sum

*As an illustration of his mode of calculating I simply quote the following: 32 days' work was spent in digging the rooted vines in the nursery; their cultivation during the summer brought their cost to $\frac{1}{4}$ cent each; 68,000 vines, at \$2.50 per thousand, \$170. Wonder who paid the nursery! Wonder how much the one hundred thousand vines cost which Mr. Haraszthy reports to the General Assembly of California to have bought in Europe in 1861, with a gardener specially employed to take charge of them on the voyage, repack them in New York, and transport them by Wells, Fargo & Co. to San Francisco?

of \$1,426.50, at the end of which the first crop, (three tons of Delaware grapes, at 12 cents per lb. net,) is credited with \$720.

Mr. Husmann, in the February number of the *Horticulturist* for 1865, gives us an account for a small piece one-third of an acre, which he had planted in 1861 with the Concord; it reads thus :

COST.

1861. 400 small plants, at 25c each..	\$100 00
“ Preparing ground, planting and attendance.....	50 00
1862. Labor during summer.....	50 00
“ Making trellis.....	100 00
1863. Labor and attendance....	75 00
1864. Labor and attendance.....	80 00
	<hr/>
	\$455 00

Or equal to \$1,365 per acre. In 1866, however, in his book, "The Native Grape," &c., Mr. Husmann estimates the cost of one acre of Concord at only \$408.50, as follows :

Preparing ground by plowing, etc..	\$50 00
700 plants, one year No. 1, planted 6 by 10.....	84 00
450 posts, 15 feet apart, at 10 cts.....	45 00
450 intermediate stakes, at 3 cts.....	13 50
600 lbs. No. 12 wire, 16 cts per lb.....	96 00
Cost of erecting trellis....	50 00
Attendance, labor, etc., during first year.....	50 00
Interest on capital	20 00
	<hr/>
	\$408 50

"The following year the vineyard can be made to pay all expenses, by layering, etc."

Now, even if we make full allowance for the price and number of plants in the two calculations above quoted, there is still too great a difference in these estimates not to leave us in doubt as to the correctness of either. In the one from \$50 to \$80 per year is put down as the cost of labor and attendance for *one-third* of an acre; in the other their cost is estimated at \$50 only for a whole acre. I am *not*

aware that the price of labor *declined* materially since 1861.

In the same book the cost of an acre of Delaware is estimated (in 1866) at \$871.50, of which amount \$125 is the figure for cultivation during the first years. And again, a few pages later, Mr. Husmann says, respecting a calculation of Mr. J. E. Mottier for one and a half acres Delaware, in which the latter deducts \$200 for annual expenses: "It would seem to me that our Cincinnati friends have hardly estimated labor and expense high enough. We cannot begin to cultivate our vineyards at as low an expense."

All who know my esteemed friend, Mr. Husmann, as I do, will have the fullest confidence in what he says. In honest truthfulness and sincerity he certainly has no superior; but nevertheless, these contradictions will not tend to give a clear insight into the cost of grape-growing. Mr. Husmann is evidently mistaken if he thinks others could make the vineyard pay the *second* year, by layering, as much as the expense of its cultivation amounts to; but even if *some* could, the receipts for the layers would come in *after* the second season, and we must have the money to pay for labor, etc., *beforehand*.

Shall I give you now *my* estimate of the capital required? If so, I must tell you first and foremost that, unless you have already paid for your land, have built your house, stable, etc., have bought your working stock, and your fences made, and unless you desire and can afford to leave them and the interest on their cost altogether out of calculation, the mere cost of preparing your vineyard-patch, of

plants and planting, of trellising, cultivation, and attendance, do *not* form a sufficient basis of calculation for the cost or the capital required.

As an illustration, let me give you the experience of S——. Names are immaterial, and there may be found hundreds of similar and, by far, worse cases. S—— went into grape growing with high expectations; it was said to be a pleasant and a most profitable business. S—— had about eight thousand dollars of his own, partly in cash, partly coming in within the next year. He had lost a good position, and, although highly recommended and well liked by all who knew him, he could not find another suitable one. He was willing to work, and had some knowledge of farming; at least, he thought so, having worked as a boy in his father's garden, and having studied horticultural works and periodicals for some time past; and above all, he had an ardent love of nature, and preferred to live in the country, by far, to city life. The idea to change it for the charms of rural life grew on him; his wife consented with delight, and thus he concluded to try his fortune at grape growing.

He bought 40 acres of land, excellently located for fruit, accessible to market, for but \$1,600. He had a comfortable little house built on it for but \$1,400 more. With balance left to him (about \$5,000) he calculated that he could gradually plant about ten acres of vineyard, but he would be careful and go sure, planting rather but three acres every year. It is true, thought he to himself, the first of these will not pay before three years; in the meantime, he would have to be very

economical; but his wife knew how to manage, and they had but one child; and then—after three or at most four years, he would have an income far exceeding his former salary, and he would be a happy and an independent man!

* * * * *

Three years afterwards, his place, with improvements, embracing six acres of fine vineyard, was advertised "*for sale*," and he himself was applying again for a clerkship.

He had spent his small capital, no money left to go on, pressing debts to pay, what else could he do?

Where did his money go to? He kept strict account, charging every expense to its appropriate page in the ledger, and the figures were as follows:

LAND ACCOUNT.

1865. To cash—purchase price of 40 acres, \$1,600; survey, etc., \$10; 1866—taxes, \$4 80; 1867—taxes, \$7 15; 1868—taxes, \$16 07.. \$1,638 02

BUILDING ACCOUNT.

1866. To sundries—building dwelling house, \$1,400; do., stable, barn and toolhouse, \$843 75; do., cabin for workmen, \$352; do., lumber and nails for poultryhouse, shed, etc., \$42. Tot... 2,637 75

ROADS AND GENERAL IMPROVEMENTS.

1866-68. For making roads and walks around house and stable, also cistern, small bridge, etc. To cash, wages, stock and feeding, etc. Total..... 221 00

FENCE ACCOUNT.

1866-68. To cash, wages, stock and feeding (after deducting or crediting this account with proceeds of cordwood sold). Bal... 326 74

TOOLS ACCOUNT.

1866-68. To cash—for farming tools, including a common wagon 269 60

STOCK AND FEEDING.

1866-68. To cash—2 oxen. \$125; 1 cow and calf, \$40; 1 horse. \$110; pigs, \$20; poultry, \$10. To

Amount carried forward.... \$5,093 11

Amount brought forward.... \$5,093 11

balance—(expenses and wages for growing feed and making pasture, etc., after crediting this account by labor performed with the stock) embracing hay, oats, and corn on hand and growing, \$239 89. Total..... 544 89

VEGETABLE GARDEN, SMALL FRUIT AND POTATO PATCH.

To wages for breaking ground, manuring and cultivating; to cash for seeds and small fruit plants. Total..... 86 50

HOUSEHOLD EXPENSES.

1866. Furnishing house, moving to the place, etc., \$312; supplies, clothing, books and papers; 1866-68. fare to town, and all incidental expenses, \$1,925. Total..... 2,237 00

VINEYARD ACCOUNT.

1866. To sundries—for grubbing and clearing 3 acres, \$122; oxenhire, etc., in breaking and plowing soil, \$30; to cash for purchase of vines, \$362; wages (part of the time two men, part only one, charging an appropriate portion to fencing and other accounts), \$261 00; stock and feeding (crediting this account for labor performed), \$60; 1867, to sundries—for grubbing and clearing 3 acres more, \$105 30; oxenhire and extra labor breaking ground, \$28; to cash, for plants, also to fill up for some which failed first year, especially Nortons, \$375 50; wages (two men almost continually, besides extra help in making trellis), 620; cost of trellising three acres with cedar posts and wire, including wages, \$369; 1867, to stock and feeding (crediting this account for labor performed), \$71; 1868, to wages (one man only, needed more, but could not afford it, nor could the trellis for the other three acres be made), charging a small portion to other accounts, \$193 20; to stock and feeding (crediting this account with labor performed), \$43. Total 2,640 00

Total in three years.....\$10,601 50

From this account it will be seen, that although his cost of the vineyard did not exceed \$460 per acre, and

would, even if he had yet trellised the three acres planted the second year, not exceed \$500 in the end, he was, nevertheless, already \$2,000 in debt. Nor will the experienced charge him with extravagance or making unnecessary expenditures. His place had to be fenced; he soon found how difficult it was to hire oxen, and that he could not get along without at least one yoke of oxen of his own; besides, he had to have a horse or mule for plowing and cultivating, and one cow at least for his household. To keep these he had to have a little barn and stable, however plain, and had to provide for feeding. To buy food, which he had to do the first year, proved very costly; and as he had the land and had to employ some hands, he felt that he had better grow at least part of his hay and oats, and to make pasture for his stock. A little vegetable garden and some poultry is also indispensable for a family in the country, and lessens considerably the *expense of living*. These latter expenses (about \$650 a year) may seem too large, perhaps, to other farmers, especially to those who do not keep accounts and never lived in a city.

But while I admit that some very economical, experienced farmers, men who are used to rough it, who do most of the work themselves, and know how

to get more work out of their hired men, could have got along with considerable less outlay, I can assure my readers that S—— was more economical, prudent, and industrious in the management of his place and of all his affairs than the average of persons accustomed to different pursuits; nor did he lack perseverance. Though reluctantly, he endeavored to borrow about three thousand dollars, giving a mortgage on his land, house, and vineyard, which now cost him ten thousand, without calculating interest; but he found that while there was plenty of money offered on real estate in the city, at a low rate of interest, he could obtain none, except perhaps at a ruinous discount, on his land and house in the country.

It is true, he hoped that the first crop of grapes from the three acres planted the first spring, and the sale of plants which he raised from his cuttings and by layering, might bring him about one thousand dollars, but this was not enough to pay his debts; and he felt at the same time that, to carry on his vineyard successfully, many other improvements were yet necessary; that he would have to build a cellar, with its necessary appendages, to buy more tools, and casks, boxes and bottles, etc., all of which require an outlay—and that thus he failed, as many did before him, and many more will fail after him—from insufficiency of capital.

' We are so crowded with matter for this number that several interesting communications must be laid over for next month. We had also to postpone the continuation of the article "Can Grape Growing be Overdone?" for the same reason. We are glad to see this lively interest on the part of

our friends. It shows that the GRAPE CULTURIST is fast becoming what we designed it to be, the medium for interchange of experience for the grape growers of our country. Send us your articles; they are always appreciated, and will find a place some time, if not immediately.

TRAILING CHAIN CULTURE OF THE VINE.

(Concluded.)

The canes are formed successively upon one, two, and three main branches. These produce shoots, among which one is chosen to form the leader; two spurs are also left to produce laterals the following season, and in this manner the main arms attain gradually 15 to 18 feet. These can be and are frequently shortened in, and allowed to grow again in the same manner.



Fig. 7—First year.



Fig. 8—Second year.



Fig. 10—Fourth year.

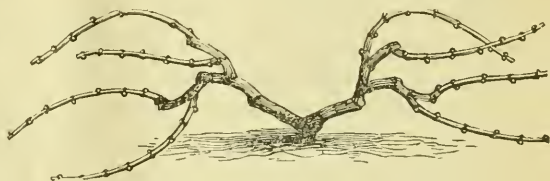


Fig. 11—Fifth year.

the soil and the strength of the plant admit of it. When twelve years old, the stock should be able to bear that amount.

The arms are allowed to grow to 15 feet, or more, leaving one fruit branch every 24 inches, and carefully removing all useless buds before the sap is ascending. And here is shown one of the immense advantages of the trailing chain culture for regions subject to spring frosts. One-half, or at least fully one-third of the numerous buds do not come out when the sap commences running upwards, so that should the early buds be swept off by a late frost, those that remained dormant come out in their turn and take possession of the sap. Experience has fully demonstrated this superior advantage. * * * *

HEADING OFF.—This important operation is performed three times during the season; first, as soon as vegetation starts; next, when it has attained four to six inches; and lastly, at blooming time. As is well known, it consists in removing the non-bearing buds, which are not to be used in pruning the following year, and its object is to keep up the strength

The second year, two fruit branches are retained (Fig. 8), which have to be cut back to 18 or 20 inches, leaving only four or five buds to grow on each.



Fig. 9—Third year.

The third year (Fig. 9), of the four or five buds grown the preceding year, only two are kept on each branch.

Each succeeding year (Figs. 10 and 11) two more branches are added to the number until there are 50 or 60 of them, if the richness of

of the main stem and branches, and relieve them of a greedy and useless growth, thereby

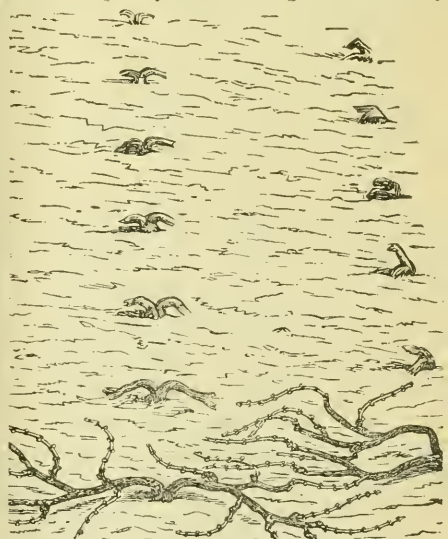


Fig. 12—Trailing Chain, 6 by 18 ft. apart.

benefiting the fruitful buds, and those which are to extend the branches of the stump.

INTER-CULTURE.—The practice of raising various crops among the vines, although very tempting in the trailing chain system, has been entirely discarded. It has been demonstrated that the proximity of cereals or grasses exposes the flower to blight, whilst the sod and fibrous roots are highly detrimental to the vines, and impart to the fruit additional acidity. The grape requires a denuded surface around it, always proportioned to its extension.

We have read the above with a great deal of interest, and copied it, not because we think its application probable in our country and climate, but that we thought it well to bring all modes of culture before our readers, and show them why we advocate our present trellis system, and think it the only practicable and profitable plan. Some of the most important features of *American* grape culture, which are indisputable, and must always be kept in mind, are: 1, the freest circulation of air, to prevent mildew, rot, and all other diseases; 2, easy access to all parts of the vine; 3, shading the fruit while ripening; 4, clean culture.

Now, let us see how these could be attained by the trailing chain system.

According to this system, the vines are rested and drawn over pegs and forks about eighteen inches from the ground, thus covering the whole ground, and the fruit hanging near it. Any one at all familiar with our climate and the diseases of the vines, will see at a glance that they would form such an impervious mass of foliage, that the air would be entirely excluded. Mildew would set in, followed by rot, and we fear but little would be left of the

crop. Nor can we see the great saving of material and labor which is claimed for it. It will take an immense amount of these forks, or pegs, which, when the vines are taken up and thrown on the next row, must be taken up and set again. Nor do we see how it would be possible to have the necessary access to all parts of the vine, for summer pruning, or, as called in this article, heading off. Imagine a Concord or Norton thus spread upon the ground, and the vintner picking his way among them. We venture to say he would soon abandon it in despair; and when he would come to lift up his vines and throw them back on the next row, he would find that he had got hold of an elephant which would be difficult to handle.

Let those who would like to try this plan remember that four to five plowings and hoeings are necessary here in a single summer, to keep down the abundant growth of weeds. Every one familiar with grape growing here will remember the disastrous effect it has upon the vines and fruit, if a bearing cane is broken loose in the summer. Even if tied up ever so promptly again, the fruit and leaves are sure to suffer. How would they fare if this whole network had to be taken up, thrown back on the next row, and returned to its position when the ground has been plowed? We do not know how they can manage this in France, but we *do* know that *here* it would be utterly impracticable. We warn our readers against trying it on a large scale. Should they be inclined to try it at all, let it be with a few vines or an outside row. We think it will fully satisfy them.—Ed.

EDITORS' LETTER BOX.

KEYTESVILLE, Mo., August 17, 1869.

FRIEND HUSMANN:

I thought I would write you a few words concerning the grape crop here. We had a hail storm in June that damaged the crop about one-fourth, and a heavy rain during the blossoming damaged it some more. Mildew and rot we have escaped almost entirely. So far as my own vineyard is concerned, I will not lose half a bushel by rot on four acres in bearing; in fact, there is more rotten grapes on two Mary Ann vines than all the balance of the vineyard.

On two acres of Norton Virginia, I have not seen a rotten berry. No fault with the Delaware, except some failure in foliage on a few neglected vines. I will make two gallons of wine to the vine from the Herbemonts.

The foliage of Rogers' No. 4 (Wilder) mildewed a little. No. 1 (Goethe) and 19 (Merrimack) none at all. Concords all that can be desired in fruit and wood. By the way, I must say I think that Gallized Concord wine is the most healthy daily drink we have in America. I know of some remarkable cures of chronic diarrhoea made by drinking this wine, and in all cases it has remarkably improved the appetite and digestion, especially in persons suffering with acidity of the stomach and indigestion. It may seem paradoxical that an acid wine should cure acidity of stomach, but such is the fact. In the "summer complaint" of children, the Virginia Seedling will "play the doctors out." Perhaps you may think I have wine to sell—I must say, with tears in my eyes, mine is all gone!

The only drawback we fear here in grape raising is the birds; but I go for them from "early morn till dewy eve." The slain can be counted by hundreds. I have treated my vineyard to some extent on the no-cultivation plan, from necessity, not from choice; though I succeeded in getting over it twice by mowing it before plowing. Yet, notwithstanding all this neglect, my Norton's have made an enormous growth, and crossing each other's rows, they entwine in fond embrace, and constitute an impenetrable mass.

G. M. DEWEY, M. D.

[We are glad to hear so good a report from you, Doctor, the more so as we know you to be both practical and reliable. Strange that the Mary Ann should rot with you; we have never seen it rot here or at Hermann, not even this unfavorable season.]

We are well convinced of the health-promoting qualities of Concord wine. It has been our daily drink for years, at about the rate of a bottle a day, and as such we find it far superior to Catawba, as it seems to cool and invigorate, while the Catawba always had the contrary effect upon us. We do not find it at all paradoxical that it should cure acidity of stomach, as we are an humble believer in homœopathy and the doctrine of "*similia similibus*." We could cite some astonishing proofs of the superiority of homœopathic wine making, and intend to do so some day. Of the superior value of Norton's as a *medical* wine we need not speak, as we have asserted it fifteen years ago. But such medical testimony as yours will make "assurance doubly sure" with

the masses. If the people knew once how many doctor's bills they could save by drinking it, it would become necessary to plant several thousand acres more of it, and medical gentlemen would have "more rest."

We are afraid you are too hard upon the birds. You will find it out when too late that the insects are worse than the birds. We intend to return to this subject some future number, when we are not so crowded. We must postpone our own report about the crops here for the same reason, and we are not unwilling to do so, because it is safer to count the chickens after they are hatched, and grapes when they are gathered, than before. We will only say now that the crop of the leading varieties is satisfactory, and of the Norton's the most abundant we have ever seen.—Ed.]

STONE'S PRAIRIE, ADAMS CO., ILL., }
July 21st, 1869. }

MR. GEORGE HUSMANN :

Dear Sir—In perusing the July number of the *GRAPE CULTURIST* I noticed an article on the "Trailing Chain Culture of the Vine," and I am much pleased with the idea.

We have had continued rains here since the 1st of May; I think there have been few such seasons since Noah's flood. During this time we have had but little sunshine, and the result is that my grapes (mostly Concord) have rotted badly; my Delawares are perfectly sound yet. Now, my vines are trained to single stakes, and spur pruned, 5 by 5 feet apart—too thick I know. I am going to take up every other row this fall. Now, I notice that the clusters that hang close to the earth, and those that lay partially

on the same, have not rotted so bad as those up on the stake; I also notice that vines that have lain on the ground till after blooming, have universally set the largest clusters and more in number, which, I think, points to horizontal training as the most natural to the vine. I also notice with our wild grapes that they climb large trees, and that the branches running horizontally bear nearly all the fruit. Now I have 1,000 Concord vines that are ready to bear a full crop next year; I planted them 5 by 10 feet apart, and thought of trellising them this winter, but your article on chain culture has nearly upset my plans. I have some notion of trying that method next season, on part of my vines at least. Please give us your opinion in the *GRAPE CULTURIST*. I have 1,000 Concord vines bearing their second crop this year; but, owing to the cold spring and wet summer, the crop will be light. The vines look healthy, and are making tremendous growth.

Please excuse this lengthy article, and intrusion on your time.

Yours truly, S. S. GROVES.

P.S.—I will just say here that I have no neighbors that are growing grapes, and I have to look abroad for all my information in this branch of horticulture; but the future promises better, as a few are beginning to plant vines. Will it pay to transplant six year old vines? and what is their value compared with one and two years old for that purpose? I shall dig up 600 Concord vines that have borne two years this fall, in order to thin my vineyard. S. S. G.

[You will find our opinion on trailing chain culture in this number. It

will pay to plant six year old Con-cords, if you will take the trouble to dig them carefully. Leave the longest cane on them they have, dig a large hole, lay the old vine with its roots well spread out in the bottom of the hole, and bend the young cane in a circle, letting its upper end come out even with the ground, and fill up with well pulverized earth. The young cane will take root at every joint, and make a strong vine. It is a laborious process, however, and we do not know but it would be more economical to plant good one year old vines.—Ed.]

—
AUGUSTA, Mo., August 14, 1869.

Messrs. Editors: My suggestions referring to a remedy against grape-rot, published in your August number of the GRAPE CULTURIST, are based on actual observations. I dug up Catawba vines that were badly rotten, and in every instance found the roots affected. Where the lower roots were buried in stiff clay, the so-called foot of the vine was entirely dead, and the vine lived only by its upper dew roots, widely spread. Others, indeed, had curved to the surface of the ground. These, as well as the dew roots, had their root-lets rotted, and made new shoots. I have an old Catawba vine of twenty years' bearing that never ripened its grapes, which I left only for its shade. Last year, about midsummer, it was loaded with grapes again, and began to rot. I cut away the dew-roots close to the stem, and found the epidermis of the main root also rotten, which I scraped off. The rot ceased, and I had my first crop of well ripened grapes from it. This year its leaves and grapes are entirely sound. It will be

easy to find in the above stated facts an explanation of your failure and that of your neighbors fifteen years ago, but I intend by these communications to excite no *theoretical* but *practical* researches. The true and right way to successful grape culture can not be otherwise found, I believe.

Respectfully yours,

CONRAD MALLINCKRODT.

[We are glad to hear from you again, as the subject is well worth investigation, but we do not think you have as yet proved your position to be a true one. You say that you found the lower roots of the vines, where they entered the stiff clay, entirely dead, and that the vine lived only by its upper roots. In others, you found the lower roots curving to the surface. If this is the case, and you cut off the *upper* roots, how is the vine to live? That the rot stopped in the old vine you mention may be explained by a sudden check of sap, occasioned by the operation. We have often thrown unfruitful trees, and also vines, into fruitfulness, by taking out a ring of bark. But whether the vine will ripen its crop, or be fit to bear another next year, remains to be seen. We doubt it very much. Please report on its condition next year. We think your letter goes far to prove that vines will root near the surface, and not in the cold subsoil, away from the influence of sun and air. Granting this, it would be murderous to cut off the *upper* roots.—Ed.]

—
COURTLAND, NORTH ALABAMA, Aug. 13, 1869.

Messrs. Editors: I have failed to get my GRAPE CULTURIST for August. Please send it, as I miss it more than any periodical I take.

Your article, "What Shall We Plant," in the March number, is of great value to young grape planters like myself. It is worth, by itself, a year's subscription to the GRAPE CULTURIST. I respectfully suggest that you might make an article equally interesting by publishing a list of the varieties recommended, in the order in which they ripen at Bluffton, and with the usual dates; for it is very desirable that they should be so planted that you may gather the fruit conveniently.

My vines (eight kinds) I have suffered to trail on the ground, without stake, this first year, plowing them six or seven times, the first four with the bull tongue and the latter with a sweep. The season has been dry, and yet all have never stopped, advancing in a vigorous, stocky growth, except the Iona, which has mildewed badly.

I have also an acre of young Seuppernongs. This is a safe grape to plant South, but I do not award to it the merit which many do, on account of its deficiency in sugar. A friend of mine in Chapel Hill, North Carolina, who is a good chemist, analyzed the must in 1867, and made it 12 per cent. of sugar and 4-thousandths of acids. The proportion of acid was so small that I asked him to repeat the test in 1868, which he did, making the following report: "As regards the Seuppernongs, my assay was correct. I have determined the acid (4) in four different samples this summer. It was the same; if anything, it was less in two samples. One lot of grapes was sent from Fayetteville. The amount of sugar was ascertained in only one sample 11.2 per cent., a little

less than it was last year, which was owing in part to a heavy rain just before the grapes were gathered. I made a small quantity of the wine, and it was totally different from any specimens of it I ever saw. It was very much like the Rhine wines, of a beautiful golden or straw color, and as good as the "hock" I paid \$17 a box for before the war. Seuppernong wine, *as made* in this State, is a failure. A party in Baltimore wrote to see if I could purchase 3,000 gallons for him. I found any quantity of it—5,000 in Washington, 3,000 in Fayette, 5,000 in Wilmington—but it was not marketable, I think on account of the manner in which it was made."

I am satisfied of the correctness of the above test. The must is very deficient in saccharine matter, but the small proportion of acid gives it great *apparent* sweetness. The reason why it is so difficult to make good wine of it is not explained. An experiment I made with its congener, the "Muscadine," which grows to great perfection in the bottoms of the Tennessee river, suggested the obstacle to my mind. I found a gum in it which, instead of sinking during fermentation, swam on the surface; and it required frequent shiftings to make a good table wine. May not the best way of handling this and the Seuppernongs be, to make the first violent fermentation *over*?

Very respectfully,

JAMES E. SAUNDERS.

[We will try and give such an article as you desire in the October number. Have sent you the missing number. We are glad to see that the

GRAPE CULTURIST is appreciated by you, and hope that none of our readers will find it a poor investment.

We think you place the Scuppernong about where it belongs. It may do for a first beginning in the South, as you say it is a *safe* grape to plant, but it would be folly indeed to rest contented with it. Your suggestion of *over* fermentation is a good one. Please try it, and report your experience. We should be pleased to receive a sample of the wine thus treated.—Ed.]

TOWER PLACE, QUINCY, Aug. 15, 1869.

MESSRS. HUSMANN AND FRINGS:

Dear Sirs: My Delawares are throwing out a fine crop of new leaves. I am in hopes they will give me a good lot of grapes yet, as my Catawbass have failed and Concords dropping badly. I must depend upon the Delaware to bring me back my money that has been spent in cultivating the vineyard. The expense of cultivation this season has cost me from one-third to one-half more than last year; the weeds and grass (especially what we call joint grass) have grown with amazing rapidity. My wine made last fall is very good; the Delaware is pronounced by those who call themselves judges as being very fine. My wine cellar has had a great deal of water in it. I have a pump that throws an 1½ inch stream full. Some days the pump has been worked six to seven hours; a well hole in the cellar, 4½ by 7 feet, and 5 feet deep, would be full, and the cellar floor covered. The ventilation being good, my cellar has not been as damp as one would think; casks have moulded

some, which is the case, I believe, in all cellars, if they are anyways cool. The market here is poor for wine, the Germans being the principal consumers, and they thinking no wine fit to drink unless it comes from the Rhine, or at least the cask must be marked as if it did, even if the sour stuff was made in Chicago out of apples. I remain, etc.,

JOHN L. MOORE.

[It does not necessarily follow that a cool cellar should also be damp and mouldy. We have seen very cool cellars entirely dry, and with as pure air as any room. Can you not cut a drain from your cellar? You must make allowances for the prejudices of people. They will not be overcome in a day or in a single year. A great revolution in the taste of the people is slowly working its way, and meanwhile we will try and make our wines so good that people are compelled to drink them if they taste them once. It is our constant aim to assist our readers to do this by our own experience and that of others. Will they all help us by giving it through our columns?—Ed.]

WARSAW, ILLINOIS, August 2, 1869.

MR. GEORGE HUSMANN:

With all the vineyardists in this neighborhood, the Catawba is almost a total failure. Concord, Clinton, and Delaware have mostly succeeded. We hope to receive some good suggestions and instructions from your 20 years' experience in grape culture.

Very respectfully yours,

CHARLES HAY.

[We shall be glad to give all the information we can. Let us hear from you again.—Ed.]

OSWEGO, OREGON, July 21, 1869.

MR. GEORGE HUSMANN:

Dear Sir: Thinking you would like to know something of the prospects of the grape crop in this part of the world, I drop you a line. My vineyard is eight miles south of Portland, lat. 45 deg. 25 min. I have but a few hundred vines, comprising sixteen or twenty kinds, mostly the earlier natives, though the foreign grape (*Vitis Vinifera*) seems to flourish equally well. The grape seems to be perfectly healthy here. I have never seen a symptom of disease either of leaf or berry. As a general thing, our nights are too cool for any except the earliest kinds to ripen perfectly, but this season is an exception. We have had an exceedingly dry and warm summer so far, and fruits of all kinds are nearly a month earlier than usual. The prospect now is that we shall have the best crop of grapes ever seen in Oregon. The Hartford Prolific, Delaware, and Israella are beginning to color. Allen's Hybrid also begins to show signs of ripening.

Yours respectfully,

WEBFOOT.

[Thanks for your communication "across the hills." We wish that you could have shared in our superabundance of water. Please let us hear from you again.—Ed.]

ALMONT, MICH., July 23, 1869.

GEORGE HUSMANN:

Dear Sir: I have been reading with a great deal of interest your article in the Agricultural Report for 1867, on "American Wine and Wine Making." There are a few (and only a few in this section) who are manifesting some interest in the culture of the grape.

What I mostly wish to know from you is whether there is in this country, and if so, where, and who has it, the grape root called in France *La Folle* (the Crazy). If you know where it can be obtained, you will confer a great favor upon me by giving me the knowledge.

Very respectfully, your well-wisher,

O. P. STROBRIDGE, M. D.

[We do not know where the variety you speak of can be obtained, and fear it will not succeed even if you should get it, as foreign grapes have nearly all proved failures, except under glass.]

Can any of our readers give the desired information, and a description of its habits?—Ed.]

COLUMBUS, MISS., August 17, 1869.

GEORGE HUSMANN, Esq.:

Dear Sir: In an article written by you some time ago in *Tilton's Magazine*, you say that you can improve wines by correcting their faults. I agree fully with you, and I have done so with our native Muscadine (Black Scuppernong), which grape most always has too much tannin: but I relied in adding sugar or water on the test of my tongue. Now, you will oblige me very much if you will inform me what instruments you use to tell the amount of saccharine matter in the must or the alcohol in the wine. Our Muscadine crop of this year is quite promising, and I intend to make many barrels. When cool weather has set in, I will send you a sample of my last year's Muscadine. You will find it quite different from your wines.

Very respectfully,

J. J. COLMANT.

[We send you the GRAPE CULTURIST, in which we trust you will find the in-

formation you want. Oeschles' Saccharometer can be procured by addressing Jacob Blattner, St. Louis, Mo. The price, we think, is \$3.50. It is the instrument you want.

We shall be glad to receive a sample of your wine, and will report on it through our columns.—Ed.]

GRANBY, July 20, 1869.

GEORGE HUSMANN, ESQ. :

Dear Sir: I enclose a little article from the *Southwest Independent*. It will give you some idea about the prospect of grape culture in our county. We have no Grape Growers' Association here, but we work together in the greatest harmony, and are perfect communists in everything concerning "grapes and wine."

Our hills here are covered with wild grapes of the *Æstivalis* family, many of them of fine quality. The soil is very gravelly, and exactly suits the description of the best grape lands, as Mr. Muench gives it on page 17 of his "Weinbauschule." Do you know of any plow that will loosen such soil to the depth of 12 or 14 inches? The

deepest we ever could work it with common turning plow and bull tongue is from 6 to 8 inches. All kinds of grapes planted in ground thus prepared have grown well, and are now full of fruit, but we are afraid that in a few years they will give out. What do you think of it? Many of our vineyards are on our high situated prairies, and they all seem to do well; the subsoil is a rather stiff clay. The Concords have nearly reached full size. About twelve days ago I found the first rotten berries on them. Something like 300 berries rotted so far in a crop of 1,200 lbs. Yours respectfully,

HERMANN TEGER.

[If you will try Deeres' subsoil stirrer plow, we think you can get somewhat deeper than with the bull tongue. If your land is gravelly and loose, we think there is no danger of your vineyards giving out. If the roots of your vines find congenial food in the soil, they will penetrate it. Glad to hear such a favorable report from Newton county. Your article was crowded out of this number. We will try and bring it in a future one.—Ed.]

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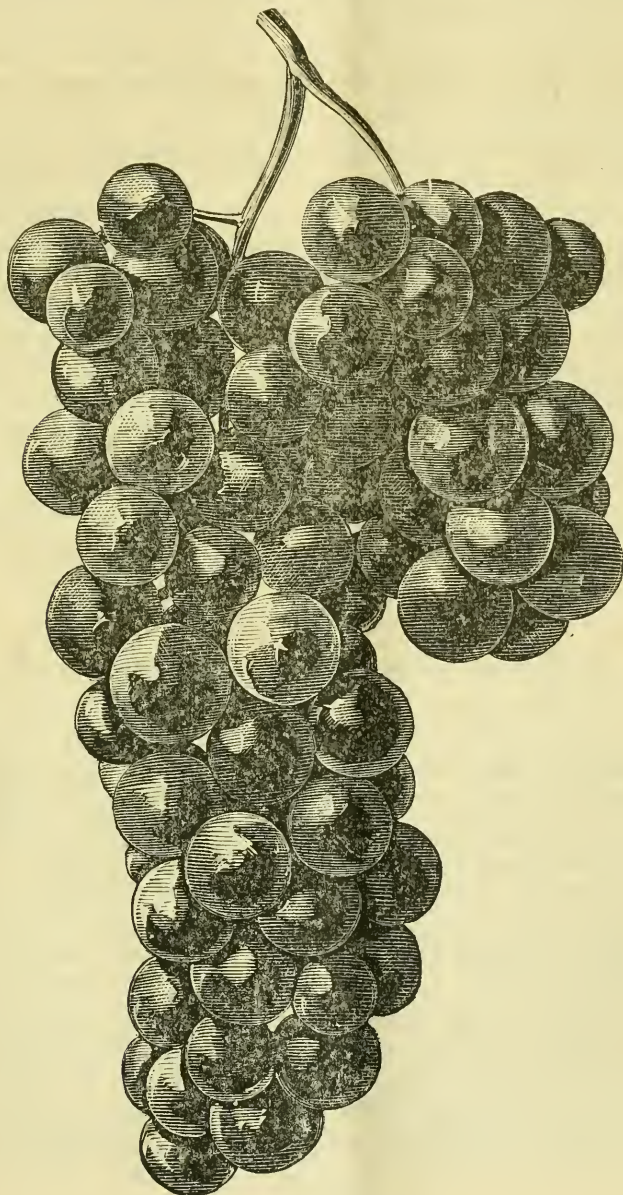
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THE GRAPE CULTURIST.

Vol. I.

OCTOBER, 1869.

No. 10.



CORNUCOPIA.

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ARNOLD'S HYBRID, No. 2.

This is, from all the information we can gather, and from samples of the fruit sent by Mr. Arnold last fall, one of the most promising of his seedlings. We have his five Hybrids (Nos. 1, 2, 5, 8, 16), growing side by side in the experimental vineyard here, and this is the most vigorous and healthy of them all, plainly showing Clinton origin, though much superior to it in quality. It is a hybrid of Clinton with black St. Peters, and originated with Mr. Charles Arnold, of Canada. We give his description: "Bunch medium, shouldered, compact; berry medium, black, with beautiful bloom; flavor excellent, pleasant and sprightly; skin thin; seeds large, bearing nearly the

same proportion to size of berry as Clinton. Flesh melting, with very little pulp, if any; seems to burst in the mouth; all juice, with a little acid and astringency; ripens with Concord. A good market grape and a good keeper."

The accompanying cut was kindly furnished for our use by Mr. Arnold. We can only add, that if these Hybrids improve as much by change of location as other Northern grapes have done, and should prove healthy and hardy here, we consider them great acquisitions, especially to our list of *wine* grapes, as at least four of them seem to contain all the requisites for making fine wine.

OCTOBER.

WORK FOR THE MONTH.

This month will, to some extent, be taken up by wine making, of which we have already treated in a separate article in the September number. After your vines have yielded their crops, and the first frosts have stripped them of their leaves, give them another plowing, throwing the ground well up around the vines. Tender varieties should be pruned first, then bent down along the trellis, a few shovels full of earth thrown on them to keep them in their position, and then well covered with the plow. This should be done with all varieties which are even of doubtful hardiness, and will richly repay *every* season, as the vines generally suffer more or less

every winter, especially after a summer so unusually wet as the last, and in which grape diseases were so prevalent. Such seasons the wood never ripens so thoroughly, and is, consequently, more susceptible of frost. Plowing in fall has several advantages: 1st. All the leaves are covered up, will rot under the vines, and are just the kind of manure—in fact, in most cases the only one which the vine needs. 2d. It throws the ground well up against the vines, thus being a partial protection to them, leaving a furrow as a surface drain in the middle of the row, to carry off the water. 3d. It pulverizes the soil, leaving it exposed to the influence of frost.

Ground may also be prepared for fall planting, by plowing and subsoiling. Even if it should be impossible to plant it, it will be all the better in spring for being exposed to the atmosphere.

In the latter part of the month plants may be taken up from the cutting bed and propagating grounds. Be careful to get all the roots you can, and especially not to burst them off at their junction. By *all* the roots we do not mean their entire length. If they are cut off with a sharp spade a foot from the vine they are abundantly long. But we mean that they should not be split or bruised. We are trying to invent a plow now for digging several hundred thousand, and, if we succeed, will give a description of it to our readers.

Do not dig your plants, however, before they are *thoroughly ripe*. The brown color of the wood, and dropping of the leaves, are the best indications. Never allow the roots to get dry. They should not be more than an hour out of

the ground, and, if the sun shines, the roots should be covered even during that time. Sort into first and second class, and, if you intend to keep them out of doors, choose a dry, sandy spot, and heel them in in rows, in a shallow trench, laying them slanting, and thin enough so that all the roots can be covered with mellow earth. Cover up to above the crown, and then throw some rubbish, dry leaves, straw, etc., over them to prevent their lifting by the frost.

Cuttings may be made, and the vines pruned as soon as the leaves have dropped. We will try and give a few general rules about pruning in a separate article. A friend tells us that he pruned his Herbemont vines immediately after the first frost, made the cuttings, and had much better success with them than usual. We advise our readers to try this, and report. We shall certainly do so, as the Herbemont is difficult to propagate if the cuttings are made late in fall, as usual.

UPON IMPROVING THE TAYLOR GRAPE.

FRIEND HUSMANN :

The article from Frederick Münch, in the August number of the *GRAPE CULTURIST*, induces me to give you some account of a seedling, or hybrid, from the Taylor, fertilized or crossed with pollen from the Grizzly Frontignan.

Some years ago it occurred to me, in the course of my hybridizing experiments, to make the effort to obtain hybrids between the Taylor and some foreign varieties, and I accordingly prepared two bunches upon a Taylor vine, fertilizing one from Chasselas Fontain-

bleau, and the other from Grizzly Frontignan. I recollect distinctly that the two bunches thus artificially impregnated were the only compact or handsome ones upon the vine. All the rest were characteristically loose, uneven, straggling and imperfect.

From the seed of those two bunches I raised some twenty or thirty vines; but they are now reduced to two; one in bearing, the other not. The vine in bearing has been always apparently the most healthy and vigorous of the lot. In unfavorable seasons only has it

shown slight indications of mildew in the leaf ; but I think less—certainly not more—than its parent, the Taylor ; and never to an extent to prevent perfect ripening of its wood. But the point of especial interest is the fact that this seedling shows not only remarkable productiveness, but sets its fruit perfectly, producing uniformly long, compact and beautiful bunches, larger both in bunch and berry than I have ever produced upon the Taylor, and this too upon a young and small vine in its first bearing.

As the fruit is not yet ripened, I can, of course, say nothing of its quality ; but the simple fact that it is a *productive* vine, forming *perfect clusters*, indicates the proper course to be pursued for improvement of the Taylor grape.

I may add that the growth of this vine is vigorous and healthy—much like that of the Taylor ; but the foliage seems thicker in substance, and better able to resist mildew or sun-scald. The

present season has been one of the worst for both mildew and rot that I have ever known ; yet this vine is very little affected, and is really, both in fruit and foliage, among the healthiest in my grounds.

Its companion, I regret to say, has always shown more inclination to mildew, and the present season has so nearly lost its foliage that it will probably not ripen its wood, and will most likely be consigned to the fate that thousands have met already.

I have also some seedling crosses between Delaware and Concord, which present some interesting features, that I may hereafter give you.

Yours, most truly,

GEO. W. CAMPBELL.

Delaware, Ohio, August, 1869.

[Thanks for your interesting communication. Please let us hear about the hybrid again. It should be good, indeed, if it is anything like a combination of the quality of its parents.—ED.]

WINE AND SCUPPERNONG GRAPE.

MESSRS. EDITORS :

Yours being the only journal devoted exclusively to the cultivation of the vine, deeming the occupation a noble one, and thinking you would like to hear from South Arkansas on the subject, have induced me to write.

I have not thus far been successful here (Union county, Arkansas, 33° 10' N. lat. and 15° W. long. from Washington) in the cultivation of the bunch grape. But my culture has been very negligent and not scientific. The fault may be in the culture or in the locality.

We may succeed by cultivating native seedlings more thrifty and not so delicate as those heretofore tried. It was thus with apples. All Northern fall and winter varieties rotted ; but, by cultivating Southern native seedlings, we have found many kinds which are unsurpassed by any grown at the North.

For amateur culture, and early table use, a good bunch grape is very desirable, but for a late table and wine grape, we have the *sine qua non* in the Scuppernong or white Muscadine. It is the right thing in the right place.

It is impossible to make a good wine out of any grape ripening here in June, July or early part of August. The heat is so great, and continues so long, that it will sour, however much attention we may bestow on our cellars. In the North, where the season is short, the great object is to get a grape which will mature before frost. It is the reverse here. We want a grape which will mature in autumn, which is always sufficiently warm for fermentation, but not so great as to sour. The Flower grape, another species of Muscadine, ripens in October, for which it is in better time for fermenting than the Scuppernong. It is valuable in another respect, as it makes a red wine—the Scuppernong being white. But it is not so aromatic.

Mr. Longworth said “it (the Scuppernong) would do to make cordials,” &c., which may be true of it North, but under our burning sun and long seasons, it makes a very different article. It is a native of the “Sunny South,” and will do well nowhere but in warm climates. A gentleman (H.) has cultivated and made wine from it some seventeen years in this county, and makes very fine wine, which he readily disposes of at a very remunerative price. I have been experimenting for some few years and have made some which connoisseurs pronounced “not only good, but very good.”

The *Massachusetts Ploughman*, May 15, 1869, says of some Scuppernong wine sent him from North Carolina: “It is too new to show its good qualities, but it is a pure wine, the fermented juice of well-ripened grapes.” The editor continues: “Some Scuppernong wine brought by Hon. Marshall P.

Wilder, on his return from North Carolina, was recently submitted to the Massachusetts Agricultural Club, composed of radical temperance men, and so all the more competent to judge impartially, and the members were unanimously of the opinion that *it was equal to the best American native wine, and (the grape) worthy of careful culture and development.*”

For sweetness and delightful aroma the Scuppernong is without a rival. The Federal officers and soldiers, while South during the late civil war, were enraptured with it. So great is its aromatic perfume, that the atmosphere for half a mile around a vineyard with ripe fruit is so laden with it, especially after sundown or nightfall, that one who smells it can imagine himself in the spicy groves of Felix Arabia.

The fruit is so healthy that it has never been known to make any one sick, unless he swallowed the hulls, which are very indigestible.

When we can fix the rich aroma of this grape on the wine, and science and experience will certainly do it, our wines from it will equal, if not surpass, any wine in the world.

It is said by many, especially of the North, “that it takes too much sugar.” The charge is correct as to our practice up to this time, as we gather our grapes too green, but it is true as to our practice only. The small quantity of our fruit heretofore, and the great struggle of birds and men to get it, have caused us to gather too soon. As our vineyards extend we can afford to let the birds and passers-by have some, and the balance remain until fully ripe. Then very little if any sugar will be required. I have conversed with many

experienced and intelligent vignerons who agree with me. I made some last year with very little sugar ($1\frac{1}{4}$ lbs. to the gallon must), and although the grapes were not near so ripe as they should have been, it has fine body. Most persons who taste it can hardly be made to believe that a great deal of spirits have not been put in it. So thorough was the fermentation last fall that it showed but a very slight fermentation this spring for a few days, when it became and has remained as clear as crystal, except a slight golden tinge.

The white Scuppernong is propagated by rooted layers. Cuttings will very seldom grow, and the seeds, when planted, 99 times out of 100 produce black grapes, similar to the wild Muscadine, some better, others worse. Even with roots it is delicate for the first year, and requires skill in planting and careful culture afterwards. But those that survive the first year are extremely healthy and thrifty when in suitable soil. They commence bearing the second or third year, and increase annually with the spread of the vine. At eight or ten years of age they get well into bearing. It is not known how long they will continue, but until they are fifty years of age or more.

Their yield, after rightly in bearing, is from 750 to 1,500 gallons per acre. The must is worth \$2 per gallon at the press. The labor and skill is nothing for their culture, compared with that of the bunch grape. There is no pruning and no more labor while the vines are small, and less when large in cultivating. For profit, Sambo and King Cotton could not beat this in their palmiest days. There is money in it, and no little, beyond a doubt.

It is called by some the lazy man's grape. I admit the charge, and prize it the more on that account. The preparing the land and making the scaffolding is required to be done in winter and early spring, when the weather is cool. We can get under the vine to chop up the grass when it is hot. You never know and appreciate the meaning of the Scriptural expression of "resting under his own vine and fig-tree" until you feel the cool shade made by a Scuppernong arbor. Even the fruit is gathered in September, when the weather is pleasant, and in the shade at that. As slavery is removed from the South, this divine and umbrageous gift, with nectarous wine, appears. And this "Sunny South," which, under the system of slavery, would in a century or two have become a second Africa, will, in time, equal France and Germany in its rich wines, and be more celebrated in song than "the blue skies and vine-clad hills of Italy."

Health in this section good. The search for rich lands to raise cotton has made our lands unreasonably cheap. But these, by manure and proper culture, may be made extremely productive.

The feeling of our people towards those who come from the North to be one of us, and cast their lot among us, and to help build up our country, now ruined by the war, is *entirely friendly*. Our soil on an average will compare favorably with that of the great Northwest. We can raise a greater variety of fruits and vegetables, whilst our climate is so mild we seldom have snow. Come, then, industrious farmer, to the South,

"Land of bright flowers—land of the sun."

J. H. CARLETON.

El Dorado, Ark., August, 1869.

[We were obliged to curtail your article, as it is already almost too long for our columns. We would earnestly request our friends to be concise and practical in their communications. We do not need prosy and flowery language, but practical experience, and that in a very few words is generally best conveyed.

You have evidently no conception of what true wine is, if you think $1\frac{1}{4}$ lbs. of sugar added to the gallon of must is very little. This would make 50° by Oechsles' scale, if dissolved in water. The average specific gravity of Catawba must is 80° , which makes a normal wine without any addition. To bring up your Scuppernong must to 80° would therefore only show 30° in the must itself. No wonder people would hardly believe "that spirits had not been added." Fermented sugar is alcohol. We would like to know what

you would call a great deal of sugar, if you call this "very little."

You speak of its strong perfume. The objection raised against most of our grapes and wines by connoisseurs is that they have too much aroma. What then must the Scuppernong be, if it can be "smelled for half a mile?" Too much of a good thing decidedly.

We are not afraid of fermenting wines in the heat of summer if they are only properly watched; and if people are not willing to do this, they had better not go into the business. We also believe that few would wait eight or ten years for a crop. Our people here can hardly wait three years until *our* grapes begin to bear. We sincerely wish that the Scuppernong may prove to be all you claim for it for the South, but we confess that we cannot see it as yet, from all the information we have been able to gather.—ED.]

REPORTS ON GRAPES.

We are enabled to present to our readers quite a number of these, from different sections of the country, and the summing up of the evidence for and against each variety will be quite interesting, and of great value to those who wish to plant, and select the most reliable varieties.

We will report on the leading varieties as far as we are able this month, from this vicinity, adding what we have been able to hear from Hermann, and reserve the so-called fancy varieties for next month.

CONCORD has rotted considerably, we think on an average about one-

third of the crop. As our crops at Bluffton are nearly gathered, we can form an estimate of the average yield per acre, and find it about 4,000 lbs. Most of this was, however, on vines in their third summer, and not by any means a full crop. It has rotted least with long pruning on spurs, or laterals, and on that kind of river bottom soil commonly called "gumbo," a tenacious black soil underlaid by sand, where the Norton's do not succeed well.

CLINTON has suffered much from the gall-fly, and is almost devoid of leaves; the fruit ripens unequally in

consequence. Very little rot on sandy soil, but presents rather a sorry appearance.

CUNNINGHAM looks well in fruit and foliage, and we are fully satisfied of its value here.

CATAWBA has rotted and mildewed badly here and at Hermann—probably three-fourths of the crop—and the remainder ripens very unevenly.

CYNTHIANA. Perfectly healthy, as usual, and shows a full crop of well ripened fruit.

DELAWARE. The foliage mildewed badly, and the leaves dropped early in the season, consequently the fruit did not ripen well. Free from rot, and yielded with us at the rate of 4,000 lbs. to the acre.

GOETHE. This has stood the season remarkably well, with sound foliage and little rot in fruit. We are glad to have our early predictions of its value for the West so fully verified by all who have tried it. We expect to see it take the place of the Catawba, of which it possesses all the good qualities for wine and the table without its diseases, and think we can now fearlessly recommend it for *general* culture.

HARTFORD PROLIFIC produced very well, and rotted but little.

HERBEMONT lost some of its fruit by a kind of blight or dry rot, but still has an abundant crop, with healthy foliage.

IVES is not an early bearer, consequently had not much fruit the third summer. Seems to be healthy and vigorous; no rot, or very little.

MAXATAWNEY is also not an early bearer, but the little fruit it had was

healthy, also the foliage; and at Hermann it produced well on older vines. We think it can be safely recommended.

MARTHA rotted much less than Concord; is reliable and uniformly productive.

NORTON'S VIRGINIA. No rot worth mentioning; some mildew on foliage; has an enormous crop here, the largest we ever saw, and seems to be particularly at home on the sandy lands of our river bottom, where the fruit is larger, finer, and more abundant than we ever thought it possible to be. It has again proven that it is one of the most reliable grapes we have.

RULANDER has a fair crop of fruit, sound in foliage, and can also be relied upon. What the fruit may lack in quantity, it will make up in quality for wine. Should be planted on southern exposures.

TAYLOR. We hear good reports of it from Hermann; and what few vines we have here on the hills did moderately well; in the bottom it dropped its leaves badly, foliage blighted and very little fruit. It has rotted some everywhere, we believe; and altogether the summing up does not seem to be very favorable.

TELEGRAPH. This has stood the summer remarkably well, with clean, vigorous foliage and healthy growth, and but very little if any rot of fruit. It seems not to bear very young, but after the third year may be relied on for a full crop, and its fruit is certainly the best of all the very early varieties, and will make a very good wine we think.

EDITOR.

WALLA WALLA CITY, WASH. TER., }
July 25th, 1869. }

MR. GEO. HUSMANN:

Dear Sir: I will devote a few lines to the subject of the season of grape ripening in our climate, and ask some questions as to varieties, and the advantage of early or late ripening. Our earliest here are the Black Burgundy, Early Black July, and the Royal Muscadine, which are now fairly ripe, and all of which are of the *Vitis Vinifera* class. Next comes the Delaware, Hartford Prolific, American varieties; and the Miller's Burgundy and White Green, foreign, which ripen about the 15th of August.

All the later varieties ripen from the 1st of September to 1st October, the White Muscat of Alexandria being the latest. Of this last class I have in bearing the Concord, Isabella, Allen's Hybrid, Connecticut Seedling, Black Spanish, Black Hamburg, Los Angelos (which I think is the Black Spanish), Chasselas Rose, and White Muscat. Besides the above, I have on trial something near one hundred varieties, all of which appear perfectly healthy and hardy, and I believe will ripen their fruit in good season.

Now, in order to select the most valuable varieties for wine making, I wish to know what season is considered the most favorable for the manufacture of wine (if it can properly be called a "manufacture"). Is it not best to have varieties that ripen as cool weather sets in?

It seems to me that, should my grapes require working now during this hot weather (from 90° to 100° in the shade), that fermentation would take place too sudden, and much care would be required, and very close at-

tention. And again, it seems that varieties that require a longer season to mature will be likely to contain more sugar, and be better adapted to the purpose of wine making.

These thoughts suggest themselves, and I would like to hear from you and your associate at length on the subject.

Yours respectfully,

A. B. ROBERTS.

[You seem to be happily situated, if you can grow the foreign and American grapes equally well. We should like to be with you some time in fall, and taste and examine them all.

As to the most suitable time for wine making, we think the temperature makes little difference. We like to have our must undergo a rapid and thorough fermentation, and only object to a *too low* temperature. Your fermenting cellars would be cool enough, we suppose, even in the month of August. Your supposition that later ripening varieties are richer in saccharine may be correct in the main, though there are exceptions even to this; the Delaware, for instance, ripens early, and yet contains almost as much sugar as any variety ripening later. But the later varieties are generally not so much subject to the attacks of birds, which is quite a consideration with us. On the whole, we think the later varieties are preferable for wine making.—ED.]

PERRYVILLE, PERRY CO., MO., August, 1869.

EDITORS GRAPE CULTURIST:

Seeing in the August number of your journal some very interesting articles, for instance that of Mr. Münch about the Taylor grape, I think it of the greatest benefit that vintners from

different sections, who are able and willing to observe, exchange in your paper their experience. Grape growing will then in a few years be different from what it is now—a speculative business, with more or less uncertainty. I give you, therefore, the report of this year's crop in this section, and remark that my three different experimental vineyards are situated on a ridge ascending from east to west, sloping gently to north and south; the lowest (eastern part) fronts with its north side to a branch bottom, and the ground there is rather rich and moist (second bottom); on the top of this ridge I consider both soil and situation a real paradise for the grape; the ground looks deep red, and is as mellow as flour; decayed limestone, peroxide of iron, magnesia, and sufficient vegetable matter, are the composition of the soil, which has been cropped with wheat and corn for thirty years.

The cold spell in spring damaged some of the Clinton vines, and caused the dropping of a good deal of the Hartford and Cassady forms—quite plentiful for their time of bearing (the third year). I consider this not much damage, as the superabundance of fruit, if allowed to mature, would have injured such young vines. About the middle of June we had for weeks hot, sultry weather, which caused more mildew than I ever saw here, I observed it hanging on oak leaves; that it caused much rot on some of the grapes, who can be surprised? Here are the different results on the different varieties:

HARTFORD (in the third year on high ground). The rot did not affect the grape much, but the berries drop too

easily from the bunch to be *here* a profitable market grape. Very much attacked by birds, who have at that time no fruit in the woods. Seems to be extremely productive, the laterals even setting fruit as soon as they appear. I commenced gathering on the 7th of August, and had to keep on for some weeks, as they ripened very unevenly.

CONCORD was, on high ground, not much injured, say one-sixth, on three years old vines; but on the lowest part of the ridge, on five years old vines, the rot was terrible, many vines giving fewer berries than they showed bunches. At the end of June we got very pleasant weather; the time of hardening the seed being over, the remaining fruit (say one-fourth) looks now very luxuriant.

NORTH CAROLINA rots worse than Concord on low ground, but showed so much fruit here that I think it is the most enormous producer of all the fox grapes, *where it will succeed*. It has not so rich a flavor this year as last. This grape, doubtless, is valuable for Muscatel wine.

GOETHE, Rogers' No. 1. If any vine is able to withstand a hard trial, it is this, which—and not the Concord—will be the grape for the million here. On only one vine did I see the effect of mildew to any noticeable extent, the others producing an astonishing quantity of large, healthy bunches.

CASSADY (third year, on the highest ground). The forms were damaged by cold weather before blooming; no rot on the remaining bunches. Grows very luxuriant this year on a southern exposure; no blight on the leaves.

DELAWARE. As usual healthy and

productive; and I deeply regret that I planted just by the half dozen.

TAYLOR (fifth year, on lower part, north side). Last year the vines showed an enormous quantity of forms, but did not set their fruit well; a heavy fog ascending from the Mississippi river, and falling down in a fine rain, destroyed all the berries; I gave up the hope of success with this grape, and quitted propagating; but, to my astonishment, it is this year, on the situation where mildew is the worst, the healthiest and most productive of all, except Norton's Virginia. On one vine I am not able to count the bunches, which are well set and compact, the most measuring from 5 to 7½ inches, always with one shoulder. This vine last year lost all its fruit by rot, and made an unusual large growth, which I did not check; the older two years old cane I trained from the top of an eight feet high stake to the opposite one, and just in this higher region appear the healthiest and largest bunches; below, on the trellises, fruit and foliage are unhealthy, the latter showing somewhat like rust specks. I will plant this grape now on a larger scale, and would like to know, from you or any of your subscribers, their experience with this grape, whether it does best on a south or north side? on a high or low situation? or if the fecundation is perfect in one season and in the other not? This and the Delaware will have a proud future, the latter being in color and taste the exact Traminer, the former representing in one vine the little and great Riesling.

NORTON'S VIRGINIA. Healthy and very productive as usual, but here and

there I see the foliage affected by wart-like excrescences, so far without injury to the fruit.

CUNNINGHAM (three years old). But slightly affected by mildew, some bunches not at all; the most beautiful and healthiest foliage of all the native grapes; seems to be productive, as the laterals produced some forms.

HERBEMONT (third year). From the half-dozen vines you could spare me two years ago there are but four alive, they doing well, and two in bearing; no mildew at all. If this grape is what you say, a mine of wealth for southern limestone hills, I will work this mine.

CLINTON (third year). Plenty of grapes, slightly affected by mildew and rot; a very troublesome vine; tastes very common.

In conclusion, I would not recommend the Concord, Hartford, and all the early ripening fox grapes from the East, to southern countries where, Herbemont, Cunningham, Goethe and Norton's can be grown with success and profit. These eastern foxes will always be a source of disappointment and vexation too far south, although they make here a very desirable wine, for instance the Concord when two years old, which I pronounce fearlessly a *fine*, light, red wine. But to apply three or four years steady and careful work to grapes, which you planted by hundreds, and find in the fourth spring a huge crop hanging on the trellises; but lo! they dwindle away in the hot sun like snow; while those grapes which you planted for trial, by the dozen, grow healthy and vigorous every season, this vexes a beginner in grape growing. That Concord cannot be successfully grown so far south lies

principally in the physiological condition of this vine. How such leathery leaves, large grained wood, and naturally plethoric habits, could overcome healthfully a southern climate, will be visible very soon to every reflecting vintner, and especially if planted deep in rich ground.

About the seedlings and new grapes which I took out of the dark in a settlement inhabited long ago by French missionaries, who always experimented with the grape, I will write when I have a chance to send you some roots, which you may safely plant in the experimental vineyard at Bluffton as *valuable*, as I tasted the fruit, and planted them in my vineyard.

Respectfully yours,

DR. C. HORN.

[We had to omit your description of trellis, as it was not plain enough, we thought, to be understood by our readers. Please furnish us a plain, concise sketch, and we shall be glad to publish it. We think your conclusion in regard to northern fox grapes rather too sweeping. It is not the leathery foliage which the Concord bears which has enabled it to withstand all effects of weather. Wherever we found much rot upon the Concord this season, we also found that the vines were pruned too short. If our readers will give their Concords enough to do, and let them bear their fruit mostly on the laterals, or spurs on old wood, we think they will be troubled but little by the rot. The Concord can not be kept in the same bounds as the Catawba and Delaware. It is a vine of astonishing vigor and productiveness, and this tendency should be indulged. You

can hardly overcrop a Concord. You also forget that the Goethe, a variety which you justly recommend, has the same (as you call them) plethoric habits as the Concord, and is a descendant of northern foxes on the one side and *vitis vinifera* on the other. —ED.]

LOOKING-GLASS VINEYARDS, ST. CLAIR CO., }
ILLS., August, 1869. }

EDITOR GRAPE CULTURIST:

I have been watching in your valuable paper, and in other similar periodicals, the reports on the condition and crop prospects of the vineyards in the Mississippi Valley, but have only seen reports from a few of the vine-growing localities, and they all agree with my own sad observations, that the year 1869 is a most unpropitious one to grape culture; and the same causes which hitherto have prevented me from giving you an account of my vineyard may have operated in a like manner upon others, viz., a natural and happy propensity of the human mind to shun unpleasant and disagreeable reflections, and to cultivate rather and dwell upon pleasing thoughts and subjects. If I now act contrary to this rule, it is done out of a sense of duty, which I believe I owe to the importance of this branch of agriculture, and in the hope that what I have to say may, to some extent, be interesting if not profitable to others, and may, at the same time, gain for me valuable suggestions and advice from the observations and experience of others, who, like me, are engaged in this enterprise, so rich both in pleasure and in disappointment.

To be able to speak understandingly it may be proper to refer to the local

conditions of my vineyard. It is located on the southern slope of an elevation, or hill, rising 80 or 100 feet above the low and wet plain, formerly prairie, but now all in fields cultivated in wheat and corn. On this elevation woodland and prairie formerly met, and the ground now occupied by my vineyard was covered with hazel, sumach, sassafras, wild plums, &c., &c., and all were encircled with wild grape-vines—summer and winter grapes (*æstivalis* and *cordifolia*)—which wound themselves around the tops of the bushes, climbed to the trees, and hung down from their branches in graceful garlands waving in the gentle breeze, which came refreshingly over the green sward of the prairie.

I may state it here, that I find among the wild grape vines one which I consider the more northern cousin of the Scuppernong of the South: its wood or canes do not resemble that of other grape vines, but if deprived of its leaves it looks very much like the wood of an elder-bush; leaves on the upper and lower side of a bright shining green, heart shaped, indented and pointed; fruit not in bunches, but in umbels like elder, with a few small berries only, in consequence, I suppose, of imperfect impregnation, since these umbels in the proper season show a large number of blossom-buds.

The soil of my vineyard is a rich mould, the subsoil heavy, tenacious clay, which when cut with a sharp instrument presents a smooth, greasy surface; in trenching my ground two feet deep, and inverting it, from 4 to 6 inches of this clay were brought to the surface; this bed of clay has been ascertained to be 14 feet deep, gravel

and sand then are mixed with it in large proportions.

My first vineyard—six acres of Catawba—was planted in 1851 and the next following years. I need say no more about this grape than that my experiences with it coincide with those of others who have cultivated it; yet, fickle as it is, it was my first love, and whenever in a favorable season it smiles upon me with its luscious fruit and delicious wine, all its defects are forgotten and forgiven, and I have not yet had the heart to divorce myself from it.

In 1867 I had an abundant crop, equally satisfactory in quality as in quantity. In 1868 I had a half crop only, but of excellent quality. This last spring the blossom-buds developed promisingly, but many of them dropped off before the blossoming season; and during that season, and after it, mildew set in, and was followed by the rot, and now not one-tenth of an average crop of fruit remains; even the vines and foliage present a stunted and diseased appearance, and I shall have difficulty in finding proper canes for next year's bearing wood.

A small vineyard of Concord was planted in 1860, and was afterwards increased to about three acres. As soon as they commenced bearing fruit they showed signs of the diseases which our cultivated grapes are heir to, but not to any alarming degree until the present year. At present more than half the fruit has been affected and dropped off, and the disease is yet progressing.

The Norton is healthy; it is an *æstivalis*, and evidently feels at home here. It has not lost a berry during the wet

season, and its leaves only showed the effects of it by a sickly pale yellow color which they assumed, but which disappeared readily as soon as the weather underwent a change for the better. My Nortons have yielded me a satisfactory crop of fruit every year since they attained their bearing age, but it has never been so rich or abundant as my friends in Hermann and other more favored places can boast of. I am satisfied if I average 200 gallons of wine per acre; and I will hardly realize that much in the approaching vintage.

The Delaware has weathered the inclemency of the season very well; it has lost a few berries only; and if the bunches of grapes are not quite as large and compact as they were last year, still there is a sufficient number of them, and the only objection to the vine is its tendency to lose its foliage prematurely. It has already dropped about two-thirds of its leaves, but I hope it will ripen its fruit to perfection.

The Taylor vines have made an immense growth of wood, and if they keep on growing at the same rate next and the succeeding years, it will be difficult to subdue them to the rules of common vineyard cultivation. The fruit has not suffered more, perhaps not as much as in other dryer seasons; and if Father Münch succeeds in raising a prolific Taylor grape-vine, he will add another laurel to his already richly and deservedly decorated brow.

Ives, in their third year, show a few bunches of fruit; fruit and vines sound; and if we can make a good article of wine from the juice of this grape, it will soon be popular with us.

My Herbemonts were not protected last winter, and all they can do this

year is to grow bearing canes for next year.

Maxatawney promises well; and if it sustains its character we have a white grape of superior quality.

Diana, Iona, Israella, Cassady, and Creveling may be said to be failures with me.

My communication is already too lengthy, and will trespass too much upon the space of your journal. At some other leisure time I may give you some of the conclusions and opinions which I base upon, and form from, the premises. THEO. ENGELMANN.

[We think that the cause of disease, among your Concords at least, may be traced to the trenching of the soil, inverting it, and bringing the stiff clay on top. Experience has shown us that the Concord roots near the surface, and the ground should be deeply stirred, but not inverted.—ED.]

BOHEMIA FRUIT FARM, MD., }
August 23, 1869. }

MESSRS. EDITORS:

I hope that this letter will reach you in time for your September issue, as I have delayed it as long as possible in order to report our Concord grapes in market order. We have commenced shipping, and have some very fine bunches, many of them weighing ten ounces by actual weight. We are the more pleased with the result as all through the West the cry is "rot," while, although at one time apparently threatening us, I do not suppose we have suffered to the extent of twenty-five pounds in as many thousand.

We had a visit last week from G. H. Mittnecht, Esq., whom you know well, and who has yearly seen the vineyards of the West since they have been

started, and has tasted the wine from them. His opinion of our situation, soil, and the fruit of them, is such as to give us the greatest possible encouragement, that our situation is second to none in the country for the growing of the grape. Our autumns are long and winters mild. For the last two years, the only ones of which I have the record, we have not had frost before the 24th of October, and our location on the border of the river secures us from late spring frosts, while in our dryest weather, such as we are now experiencing, our dews are nightly heavy. At Mr. Mittnecht's suggestion we are going to try a few plants of the Herbemont, Norton's Virginia and Cynthiana, on a warm southern slope.

We have 800 acres of land ranging one and three-fourth miles along the river shore, with a depth of from one-half to three-fourths of a mile, while about the same breadth still further on brings us to the Elk river. It has occurred to us that we might possibly colonize a few grape growers—something after the fashion of Bluffton. Our own vineyards have tested the matter of adaptiveness of soil and situation, and we shall continue to extend our own vineyards as rapidly as we can; yet we know the value of association in such an undertaking, and it would also be impossible for us to manage and care for the large number of vines we should like to see extending along our shores. Since writing our last, a friend has offered to send us a few bunches of Salems, so that we may judge for ourselves.

Yours truly, EDWARD P. HIPPLE.

[We are glad to hear so good a report from you. We think you will do

well to try the Nortons, Cynthiana, Herbemont and Cunningham. They ought to do well with you; also Goethe (Rogers' No. 1). We have expressed our opinion of the value of colonization in grape growing elsewhere. It presents great advantages, if the right kind of men can be brought together, to work together harmoniously. We hope to show a conclusive proof of it in a few years.—ED.]

COLDWATER, August 23, 1869.

MR. GEORGE HUSMANN:

Sir: I send you my observations in brief of the prospect and condition of my grape vines this wet season, which has been a very satisfactory one for me, as I was endeavoring to solve the question as to varieties for this section before setting many vines.

ALLEN'S HYBRID showed fruit for the first time; three years transplanted; was in hopes to see some specimens, but shall meet with disappointment, as the blight has been the most severe on this variety than any in my collection; the leaves are nearly all killed.

ADIRONDAC. There seems to be a want of vigor in the vines of this variety this the third season transplanted; only yet about 6 feet growth; the two first seasons made only a few inches; leaves slightly affected.

AGAWAM (Rogers' No. 15.) Strongest growing vine I have; foliage quite free from blight, but the fruit rotted badly.

ANNA. Have but one vine set; fruit for the first time. As it seems to have retired from notice, I will not recall it.

CONCORD. This variety heretofore has stood the test, but has this season rotted considerably. Still there will be a fair yield.

CREVELING mildewed badly; fruit mostly dropped; leaves slightly affected.

CATAWBA is considered too late here for a certain crop; but few vines set; rotted considerably—I should judge fully one-half of the fruit.

DIANA. Vine strong, vigorous grower; set plenty of fruit; foliage all right; but few berries left by the rot.

DELAWARE. This brave little grape seems to bid defiance (with us) to the weather; it loads itself with fruit and holds it; is a much stronger grower than I supposed; I set my vines 4 feet in the row, which I think is too close by 2 or 3 feet. No blight.

HARTFORD PROLIFIC. Vines and fruit all right thus far.

IONA. A fair grower; set plenty of fruit, but mildewed quite badly; foliage considerably affected by blight.

ISRAELLA. Next to Allen's Hybrid the foliage is most affected by blight, of my collection; fruit cannot ripen.

IVES. I have only two years transplanted vines; vigorous; perfectly free from blight; shall have but few bunches of fruit.

ISABELLA every one is acquainted with; where the vines were covered they have a very fine crop.

MERRIMAC (Rogers' No. 19). Foliage badly affected; hardly think any of the fruit will mature.

NORTON'S VIRGINIA. Only one vine set; not yet fruited; probably too late to ripen here with certainty; no blight of foliage.

PERKINS. First set last spring; made good growth; perfectly healthy in every respect.

SALEM. I have only one and two years transplanted; good growers; no blight.

My soil is what is called here heavy oak openings, which is as much as to say heavy sandy loam.

I would like to inquire if iron-bound oak casks which had contained high-wines would do for wine? Also, whether you think holes bored in trellis stakes or wire staples best? Some say one, some the other. No reasons given. I have thus far used staples.

Truly yours,

J. P. PARSAS.

[Alcohol casks can be used for fermenting young wines, and are then good for any kind of use. We think wire staples the most speedy and handiest for fastening vines to trellis.—ED.]

LITTLE ROCK, Arkansas, {
August 27, 1869. }

GEO. HUSMANN, ESQ.:

Dear Sir: This season has proved, so far, splendid for our small grape crop. I have cut some very fine specimens of Concord the 20th day of July. They were, of course, not ripe enough to make wine, but fine for market. I have not noticed any rot, the bunches being perfect, and every berry colored equally. The Herbemont, Norton's Virginia, Ives' Seedling and Cynthiana, which I planted last fall, are all remarkably thrifty, the leaves fresh and green up to this date, although exposed to the full benefit of the sun; thermometer 136° in the sun.

The native favorite of mine I spoke of in my last, is completely loaded down with fruit, every berry sound, and foliage fresh and green. I have some very fine canes selected for you, which I will forward next fall. I think by hybridizing that grape with some of the more refined classes of grapes, great results could be obtained.

Our State Fair promises to be a grand affair this season; will come off the 12th of October next.

Hoping to hear from you at your earliest convenience, I remain,

Yours, respectfully,

THEO. JACOBI.

[We are glad to hear so good a report from our sister State, and shall be glad to give the vine you speak of a trial.—ED.]

SAVANNAH, Mo., August 27, 1869

GEO. HUSMANN, ESQ.:

Dear Sir: The only grapes planted to any extent here are the Isabella, Catawba, Concord, Clinton and Delaware. All except the Delaware have rotted badly this season. The Delaware has lost a few leaves, but its fruit is sound and abundant. All the Delawares hereabouts are on southern exposures. I expect they will be about perfect on northern and eastern exposures. Summer pruning is not practiced here, but has been introduced this summer, and I think the appearance of the vineyard that was pinched thoroughly four times before the middle of July will make comment on the system unnecessary. The vines now look beautiful. The fruit has not rotted half so much, and is much larger than on vines that were not summer pruned. Vines trained to high trellises have also done better than those on low ones.

A little louse has injured the leaves of the Clinton pretty badly. It appears in great numbers, and causes a warty looking knot to grow on the leaf, and when in sufficient numbers will kill the leaf, and make it look as if scorched. Any preventive?

Yours truly,

L. L. SEILER.

[The insect you speak of we think is the gall-fly, which is also very destructive in some of the vineyards here, on the foliage of the cordifolia varieties. We have seen it so far on the Clinton, Taylor, Huntingdon, and Franklin. The only remedy we know of, is to burn the leaves when they have dropped, and thus destroy the brood.—ED.]

BALTIMORE, MD., August 20th, 1869.

Messrs. Editors: In the August number of the GRAPE CULTURIST your correspondent at Bohemia Farm suggests reports about the rot on Concord (more or less prevalent this season), and by extending them to other popular varieties, they may help to an appreciation of different varieties for different parts of the country.

My vineyard is on a hill, the top about 200 feet above the Patapsco river, with a northeastern, eastern, southern and southwestern exposure, sheltered by high hills north and northwest. Soil what they call here rotten rock, a kind of clay shale.

There has been a little rot on Hartford, full ripe now, and Concord, now ripening, say about two per cent. More rot on Rogers' Nos. 3, 4, 15, 19. Some mildew on Salem, one year old. Black rot on the stem of the vine and on the berries of Alvey; not worth much here on that account. Rot and mildew on Israella; entirely worthless here. No rot or mildew on Ives; very sweet now, fit for market, but not yet for wine making. Christine, large berries, compact bunches, sweet but not full ripe. The Ives I consider the sweetest of all, but Christine is very good here. Franklin (planted last year), jet black, not yet ripe for wine. Maxatawny, excel-

lent; like a Red Chasselas, but larger berries; not full ripe yet. Perkins, less ripe still, but sweet, with a little native smack hardly to be called foxy, less than Hartford or not more, but different; planted last year. Creveling, berries beginning to turn dark; sweet, but not much flavor yet. Delaware, not full ripe yet. Iona, turning to red. Rogers' No. 1, green yet; and Norton's Virginia beginning to turn in color. Delaware and Iona had a little mildew, but did not lose their leaves, a sickness most of the Rogers are more addicted to here.

The soil of the vineyard is kept loose and free from weeds all the season through by the use of cultivator and small plow, and pronged hoes of course between the vines.

Yours truly, CHAS. T. SCHMIDT.

BALTIMORE, MD., August 21, 1869.

Messrs. Editors: In my letter of yesterday I guess I made a mistake in the name of the grape similar to Rose Chasselas, thinking by perusing your description of grapes in February No. it is No. 3 Rogers and not Maxatawney. These vines were received from a nursery in this town, whose numbers of the newer kinds were somewhat mixed up.

Yours truly, CHAS. T. SCHMIDT.

[You seem to be fond of the foxy flavor, which to most people is offensive. We think it one of the greatest merits of the Creveling that it has so little of it. The Ives may be as sweet as most early varieties, but can certainly not bear comparison with Delaware, and many others, which were not yet ripe when you wrote your communication. —ED.]

CLEVELAND, O., August 16th, 1869.

FRIEND HUSMANN:

As you would like to hear how our grapes around Cleveland are doing this year, I have taken a walk through my vineyard to-day and taken a few notes.

BADLY MILDEWED.—Diana, Alvey, Rebecca, Allen's Hybrid, Rogers' Nos. 4, 15, 32, 41 and 45, Salem, Creveling.

SLIGHTLY MILDEWED.—Concord and Norton's Virginia.

GOOD.—Catawba, Iona, Israella, Adirondac, Lydia, Union Village, Isabella, Rogers' No. 3, Anna, Ellen, Delaware.

I find the Catawba better with us than in any other place; at the Islands and around Sandusky they will lose two-thirds of their crop. This is the first season that I have had any mildew among my Concords and Nortons; but we have had a very wet season, and I am surprised to see our grapes looking so well. Yours, &c.,

JOHN SPALDING.

LEXINGTON, MO., August 26th, 1869.

GEORGE HUSMANN, ESQ.:

Dear Sir: In your August number of the GRAPE CULTURIST information is solicited in regard to the grape crop. I have forty-two varieties, mostly obtained from you—twenty-two varieties bearing. My vines are 6 by 6 feet, on wire trellis. I keep it clean from weeds. Vines two to four years planted. I have lost about one-fourth to one-third by rot; the Concord has lost about one-fourth; Catawba one-half; Hartford one-third; North Carolina one-fourth; Logan almost total loss; Mary Ann one-fourth; Taylor one-fourth; Rogers' No. 4 one-half, 19 about one-fourth; Hettie one-sixth; Maxatawney one-fourth; Tokalon one-fourth; Clinton one-third; Delaware,

Diana, Cassady, Rogers' No. 1, Rulander and Perkins but slightly affected by the rot. The Isabella has entirely escaped. Some of my vines have taken the blight at the tip ends. The grapes are ten to twenty days later this year than last. Mary Ann, Hartford and Perkins are now ripe.

Yours truly, E. W. BEDFORD.

TROY, DAVIS Co., IOWA, Sept. 9, 1869.

Having six years' experience in grape-growing in Southern Iowa, I now report my success.

Well tried varieties—Concord stands No. 1. Clinton only a half average crop three years in succession. Catawba and Isabella almost a failure. Creveling half a crop. Hartford stands next to Concord.

My experimental vineyard shows very few varieties worthy in my opinion, except Walter, Eumelan and Peggy; these three I am well pleased with. Walter is a good grower; the Eumelan a rampant grower, made ten feet of well developed ripe wood, foliage very fine; while the Peggy outstrips everything in the grape line I ever tested. Vine very hardy and healthy; the fruit ripens five days before the Hartford, equal to Delaware in flavor, berry the size of the Isabella. If any of your readers wish a few grafts of the Peggy, they can write to me, and send me ten cents for postage. I do not send you this as an advertising document. I have no plants for sale, nor is it my intention to grow any, but am willing to give such wood as I have to spare, gratis.

R. W. GANDY.

[The above is the substance of a communication we have tried to get into shape. Our friend certainly shows

liberality, and he would oblige us by sending us a few grafts of this new grape, of which we have not heard before. Also, a more detailed description of its origin, color, etc. It shall have a fair trial here.—EDITOR.]

WASHINGTON, ARK., Sept. 15, 1869.

FRIEND HUSMANN:

We find that the greatest obstacle to wine making here will be in the birds, unless we devise some way of frightening them off. They will not leave us any year a fourth of a crop. This year, notwithstanding the frost, we brought to the period of ripening, an extraordinarily fine display of all varieties. Catawbas were better than I have known them in five years. I fear, however, I will have to abandon my old penchant for the Isabella. It did not rot this season, but ripened badly, and has certainly not the flavor for a table grape which it had several years ago. I am loth to abandon it, nor will not in my garden; but can no longer recommend it. I owe you an apology in this regard, which I hope you will consider tendered. You may remember that I once said, in print, that you certainly had never eaten a really ripe Isabella, or you could not speak of it as you did. The season in which that was written the Isabellas had ripened very deliciously, but that was near three years ago, and they have never done so since. I must give it up; but, for the sake of what it has done, and for the sake of its posterity, (Israella, for instance,) let us speak of the old grandmother of native grapes respectfully, and hold its memory in reverence, and give it a place in our collections. After all, the Isabella has a

noble history. It kept alive and perpetuated a lingering interest in American Grape culture, for a long interval, after the failure of foreign varieties and before the general introduction of the Catawba. Besides that, it is useful as the type of a class, and for reference in descriptions.

The Delaware did admirably in wood, foliage and fruit. We hope much from that grape here. It shows no sign of disease whatever. Maxatawney is scarce with us, but excites high admiration. Concord showed some rot, but is "a big thing," and has the popular verdict. Herbemont, from some inexplicable cause, was much affected by mildew.

But the surest things we have are Norton's Virginia and Cynthiana. They grow with remarkable vigor, fruit abundantly, and are hardy in every particular. As I said before, the birds will not allow us to let them hang to perfection. They attack the luscious bunches, and mangle them until the fermenting juices give the vineyard the smell of the wine-press, and invite myriads of wasps, bees and yellow jackets to the feast. We can only hope the ingenuity of man will invent some efficient bird-scarer. There is not shot enough in St. Louis to thin them perceptibly. That is, one would think so to see them. The worst of it is, that our grand favorite, the mocking-bird, is the ringleader and principal sinner.

But little wine has, as yet, been made. Our vineyards are mostly young, planted since the war, and in the hands of amateurs, who have not made sufficient preparation. Next year presses, cellars, and casks will be in readiness.

I continue seeding the grape, in the hope of making some valuable contribution to the science before I die. I fear, however, the Labruscas have reached their highest development in the Catawba. Diana and Iona are good, but on the whole scarcely superior. I pay most attention to seeding our best wild grapes. This fall I am also sowing seeds of the Cynthiana and Herbemont.

After all, *does* Nature ever sport in the production of varieties? May it not be that all new varieties are real hybrids accidentally produced by some of the subtle processes of nature, through the winds or insects, or in some other way which eludes our observation?

I suppose Darwin treats of this in his new book, which I have not yet seen. From doubting whether there be any real hybrids at all, I have come to imagine that all new varieties of fruit from seed may perhaps be hybrids, resulting from the unerring laws of nature. Her work-shops are very secret, but we cannot be sure that blind chance is one of her journeymen. In this view I am throwing together and intermingling vines of all varieties upon trellises, including wild vines from the woods, selected with care. It may be that seeds from the latter may thus catch an impregnation, and be more apt to give useful results than if grown in the old fields or forests. Certainly, forced hybridization would seem more certain, but I am not sure of making nor that any one can make the proper combination, even if skilled in the process. Chance may do that best.

I receive the "CULTURIST" regularly, and always read it with avidity from cover to cover.

Truly yours, JNO. R. EAKIN.

CAUSES OF FAILURE IN GRAPE GROWING.

We were prevented by press of matter last month, to comment on this very useful and critical article of our friend Bush. He also takes us to task for inconsistencies which he claims to have found in our writings. Now, while we do not claim to be infallible more than other men, and are always willing to acknowledge errors, we think we can easily explain these seeming inconsistencies to his satisfaction and that of others. If our friend was as *practical* a grape grower, as he is certainly a good theorist and careful calculator, he would perhaps not have found them, or they would have explained themselves. There is not alone the number and price of plants to be deducted in the two calculations, but also the additional labor of an acre of *bearing* vines, which is double that of an acre in its second year, and four times the cost of an acre in its first year. Besides, we practical men learn to do all these things somewhat cheaper every year, of which fact he, behind his desk, is perhaps not aware. The cost of cultivating an acre will of course vary with the different modes of training, etc., with different cultivators. Our friend also forgets, that our book was written four years ago, and while layering *did* pay well *then*, the price of vines has decreased so, that it would very likely *not* pay expenses *now*. He says, "even if some could make it pay, the receipts for the layers would come in *after* the second year, and we must have the money to pay for labor, etc., *beforehand*." We can assure him that we did *not* forget

this, but it is so with every operation in farming; we invest our labor, etc., *beforehand*, and can only realize the profits *after* the crop. But is this a reason why we should not count on them at all?

Again, he sets out to give us *his* estimate, but he has hardly started, and we have not heard what it is, before he "switches off" into the experience of his friend S. Now, as he very truly remarks, S. has not been extravagant, but he has walks around the house and stable, small bridge, cabin for workmen, fare to town, etc. This may have seemed *necessary* to S. and friend Bush also; to a *practical* grape grower, one who has to deal with the stern realities of life, these would be counted among the *luxuries*. The *practical* man would go to work and plant his vines, cultivate them with all the skill and industry he could muster, get along the best way he could in a small cabin himself, and *after* he had made his first crops, and had realized the money therefrom, he would make walks around his house, plant his shrubbery, etc. He would need no cabin for his workmen, because he would do the work himself; he would not need much "fare to town," because he would find so much work, that he could not get time for such trips; in short, unless the grape grower is a rich man when he commences, he must deny himself all these things for a few years, and grapple with the stern reality of incessant work, and little recreation, until he has earned them by the sweat of his brow. We know a num-

ber who have not commenced with half as many hundreds as S. had thousands, and who are wealthy and independent men now, ready and willing to enjoy the luxuries of life, which taste all the sweeter to them *because* they know that they earned the *right* thereto, by years of faithful toil. These are the stuff from which grape growers are made, the earnest, hard

working, thinking men, *not* those who think the life of a grape grower an ideal one, with little toil or care.

With these few passing remarks, we can leave the "causes of failure in grape growing" to our readers, well aware that it can only be for their benefit, if they are pointed out to them.

EDITOR.

ON OUR TABLE.

We return our thanks for the many catalogues and circulars received from our correspondents, and if we cannot notice each and all, our limited space must plead our excuse. We shall continue to do so, however, and hope to do justice to all.

The *Southern Farmer*, published at Memphis, Tenn., M. W. Philipps, editor. A good monthly, well illustrated, and full of useful information. The only fault we find with it, is that it is too rabidly Southern, and mixes political hints and allusions with its truly practical articles, in a way which we do not think quite proper. In our opinion, politics have nothing to do with Agriculture or Horticulture, and if friend Philipps would turn his whole attention to them, he would be in better humor with the "Northern hirelings," who have really done a great deal for these useful branches of industry.

Illustrated Catalogue of Isidor Bush & Son, Bushberg, Jefferson Co., Mo. An excellent compilation of much useful information about grapes and small fruits, splendidly illustrated with cuts

of grapes and small fruits, modes of culture, training, etc., which make it a valuable hand-book for the beginner in grape culture. Although we cannot agree with friend Bush in everything, for instance, when he calls the term "Summer-grape" a misnomer, as that class ripens in October," which simply shows that he has not observed our wild grapes very closely, yet we admire the industry with which so much useful information has been gathered and compiled in so small a space. It is by far the best illustrated catalogue of grapes we have yet seen, and does him credit. It will be sent to applicants for 25 cents, and the illustrations alone are worth double the price to any one interested in grape culture.

Catalogue of Grapes and Small Fruits, New Plants, Seeds, etc., by Samuel Miller, Bluffton, Mo. A very complete list of grapes and small fruits. Our friend is an unceasing experimenter, and "holds fast to that which is good." His collection is a fine one, and his plants healthy and well grown.

(To be continued in our next.)

TO OUR READERS.

The first volume of the *GRAPE CULTURIST* draws near its close; and, if we are to believe the flattering letters we daily receive, we are led to the conclusion that our efforts to scatter knowledge among the grape growers of the country have been as successful as we could hope for the first season. We may say for our friends and contributors, that they have nobly aided us in the work we took upon ourselves; and we look with a feeling of satisfaction and pride upon our list of contributors. We trust we can also say for ourselves that we have tried, to the best of our ability, to give only practical experience to practical men; we have tried to deal fairly with all, from all parts of the country, and have given their experience, even where contrary to our own, without an unkind thought in revising it.

But, while we flatter ourselves that we have been successful in scattering useful knowledge among our readers, we can not say that the *JOURNAL* has been a pecuniary success. We have perhaps as many subscribers as we could expect, as we have taken no extra pains to advertise or canvass for it, and it is perhaps not as widely known as it should be. We have neither time nor inclination to go around to canvass for it. Ours has been a busy life throughout; always pressed with work, we can hardly snatch time enough to attend to our editorial duties now, when the superintendence of eighty acres of vineyard has devolved upon us. We feel that our friends in general, and the societies especially to which we have belonged

for a number of years, should have had more of our attendance this fall; but stern duty forbade the pleasure we would have had in visiting them. We shall this first year lose over \$500 on the *JOURNAL*, and although we were, and still are, willing to sacrifice our time and labor, our limited means will not allow us to sink money in the enterprise.

We therefore appeal to you all to lend a helping hand. You can easily do it, by saying a kind word for the *GRAPE CULTURIST* to your neighbors and friends. It is easy for each of you to send in one or two names in addition to your own, thereby benefiting them and us. We trust there is not one among you who has not received more than his two dollars worth of information during the past year; if we were compelled to think otherwise, we would lay down our pen at once, and consider ourselves unworthy of the task we have undertaken.

Our space is insufficient now to receive all the communications we get, and we would like to enlarge the next volume to thirty pages of reading matter, outside of the advertisements. We will pledge ourselves to do so, if our list is increased to at least 1,500 names by January, and thus try and repay all the exertions you make in our behalf.

Will you do this, and thus help to make the *GRAPE CULTURIST* what we designed it to be? We have confidence in our vintners to think that they will cheerfully do this.

EDITOR.

SENDING VINES BY MAIL.

Head the plants back so that they will not measure more than fifteen inches from the top to the roots where they will easily bend. Lay them close and tie. Then wind the roots carefully around the lower part of the stems, into as compact a bunch as possible. Dip the bundle into water, then give the whole bunch a covering of damp moss, filling the cavities among the roots with the same; or, if no moss is at hand, damp sawdust will answer. Next wrap up tightly in oiled silk or

muslin that is air tight. Follow this with a covering of paper, well tied from end to end; the address plainly written, and two cents worth of postage stamps for every four ounces of weight, and it is ready for the mail bag.

When I lived a thousand miles east of this, and things had to be carried across the Plains on horseback, I frequently sent plants and vines to Utah and California which grew and flourished.

S. MILLER.

EDITORS' LETTER BOX.

NORTHEAST PA., Sept 7th, 1869.

FRIEND HUSMANN:

Dear Sir—I am greatly in hopes you will attend our exhibition at Erie. It seems to me you owe us a visit; and, more than this, you certainly can afford to come out and make a personal examination of our fruit, and, as far as practicable, make yourself acquainted with our cultivation.

Such an opportunity would discover to you a better hope—more favorable elements—for our cherished culture than you seem to think we possess. I can well understand how you get the impressions that incline you to undervalue our country (for you certainly do) for growing grapes. You consider we are too far north; but observe that you get lower temperature in winter, and earlier frosts in autumn than we do. We can show strong, healthy foliage more days than you in Missouri. This is a fair test. I am very certain we can grow the

tender varieties much more successfully than they can be grown anywhere in your State. Come and see!

The present is the most unfavorable, the coldest and *wettest* season ever experienced here. Our general crop will be quite moderate.

WM. GRIFFITH.

[We should be happy to avail ourselves of your kind invitation, but, as we have to superintend the making of about 20,000 gallons of wine, we find it utterly impossible to leave. We take this opportunity of thanking all our friends who have sent us similar invitations, and assure them that it is not want of inclination, if we cannot accept, but stern necessity, which confines us to our duty here. We hope they will all have a good time, and that they and the good cause they serve will be much benefited by these gatherings.

You are certainly mistaken if you think we undervalue the advantages

of your region. We are well aware of the great influence the lakes have upon the amelioration of the season. We think you are also mistaken if you suppose we have earlier frosts in autumn than you have. This may be the case in the inland districts, but on the banks of the Missouri and Mississippi the same influences prevail which you ascribe to your lakes; and our springs are much earlier than yours, thus giving us a longer season. The best proof of this is, that our grapes ripen much earlier than the same varieties do on the lakes.

But we are glad to see that you are satisfied with your locality, and have no doubt it is a good one. We can assure you that we are equally well pleased with ours, and hope that each and all of our readers are "in the same fix."—Ed.]

GREEN CREEK, SHELBY CO., ILLS., {
August 18th, 1869. }

HON. GEORGE HUSMANN:

Dear Sir—You would oblige me, and perhaps a good many readers of your much esteemed journal, if you would give me some advice through its columns on the following subject: Last spring I planted about 300 good Concord vines, two years old. Continual rain prevented me from preparing the ground as soon as I intended to do it. I plowed about eighteen inches deep, and with a spade put the lowest earth, which is of a yellow color, and especially on the lower end of the piece of ground a tough clay, on top. Soon after a heavy rain set in, and made the newly worked ground so wet that I could not walk on it for several days. I did not get the upper end worked until it was dry

again. I received the plants somewhat late, and every one, even a man who worked in a vineyard in Germany, told me the vines ought to be planted, because some buds had already grown about one inch. The rain did not cease to fall, and the ground remained wet. I got a man to plant who told me he had planted "thousands" in Missouri already. He planted so deep that the one eye was about equal with the surface. About eight days after I prepared the upper end of the ground (which is more sandy and poorer) in the same manner, and after that it did not rain much more. I received some plants from another man (Warsaw, Ill.) good ones also, which had started still more than the first ones. I planted them myself, just as the other ones were planted.

Now, I find that the vines on the upper end, which was worked after the heavy rain, and which is quite loose, have shoots from six to nine feet long, while those on the lower end are only about two or three feet long. The latter ones sunk about half a foot, and the ground around the roots and everywhere is as hard as a road. Now, what I wish very much to know is: What shall I do to make the vines on the lower end grow next year? The cause of their slow growth is, in my opinion, the density of the ground (caused by working the ground and planting when wet) and the sinking of the vines. Some have their lowest roots from ten to fourteen inches deep. I hope you will be so kind as to give me some advice about this.

As the grapes have been rotting this year all over the country, I trust you and no doubt a good many readers of

your paper, will find the inclosed, which I cut out of a newspaper, interesting. Very respectfully yours,

F. HONE.

[We would advise you to plow the ground deeply this fall between the rows, and loosen around the vines with the karst, or pronged hoe. If you had followed our advice about planting, given in the GRAPE CULTURIST, "never to plant or work the soil when wet," this would not have happened. Putting the subsoil on top was also a mistake. Stir it deep and thoroughly, but do not invert the soil. If the soil is thus exposed to the action of the atmosphere during winter, it will become mellow in spring, and by working it when dry you can bring it into fair condition again. The article you refer to will be published in another number.—Ed.]

AUGUSTA, Mo., August 23d, 1869.

Messrs. Editors: To my last week's communication I would add, through the GRAPE CULTURIST, the following request: Let every vintner dig up a couple of his vines that rotted most, and report the condition of the roots. In this way, I think, a sure result could be found. If the soil, the roots, and culture cause the disease, it can be helped. If, as many seem to think, the cause is in the atmosphere, then, of course, there is no remedy; and, sooner or later, every variety of grape is liable to the disease.

Respectfully yours,

CONRAD MALLINCKRODT.

[We think you are mistaken in the last conclusion you arrive at. We have known the Norton for twenty years now, and never saw it materially

affected by the rot, which shows conclusively to us that there are some varieties capable of withstanding atmospheric influences, and perfectly reliable.—Ed.]

GEO. HUSMANN, Esq.:

Sir: Enclosed you will find \$2 for one year's subscription to the GRAPE CULTURIST. Please send me the back numbers to January.

Please inform me, through the columns of the GRAPE CULTURIST, how to use a "must scale," and what degree of saccharine matter the "must" must contain to make good wine.

Yours truly, ADDISON EBY.

[The must scale is very simple in its use, and Oechsle's the most common in use. Have your must at a temperature of 65°, and then insert the instrument slowly, with the weight on, when it will show the degrees where even with the surface of the fluid. We generally take the weight of normal must, or the average in fair seasons, for our guide with the different varieties. Good Concord should be about 75°, Catawba 80°, Norton's Virginia and Delaware 100°, Clinton 90°, and so on. The denser the must, the more sugar it contains, and the less will the scale sink into the fluid.—Ed.]

HANNIBAL, Mo., August 20th, 1869.

Messrs. Editors: I would like to know one thing: Why is it none of our northern vineyardists have ever practiced the plan of training on arbors in field culture? The theory would seem to be correct. We are told to let the grapes ripen in the shade, with the leaves exposed to the sun; and in what way can this be so

perfectly secured as to have the wires interlaced from top to top of the poles, which latter might be six or seven feet high? The vines could also run diagonally across, from top of one pole to the other, thus forming a perfect support for the vines. One of the chief advantages of the plan would be, that no culture would be required, the dense shade at once keeping the ground mellow and preventing any growth of grass or weeds, though the height of arbor would not prevent horse culture, if deemed expedient.

I think this is the plan adopted in the South for the Scuppernong, and we have accounts of the enormous production of this variety. So that it cannot be objected that it may result in shy fruitage, or injury to the vine.

I think I shall try an acre on this plan next year, unless you see decided objections.

A. E. TRABUE.

[We see several objections to the arbor plan you propose. First, It shuts out air and light, two important requisites to success in grapes, and without which our grapes can not attain their full perfection. Second, It brings the fruit out of your reach, and you can not conveniently perform the necessary operations of pinching, tying, etc. Third, It adds to the cost, as you would need higher posts, more wire, etc.

If you do not think weeds could grow under this dense shade, how can you expect the grapes to remain healthy? We have long ago satisfied ourselves that the finest grapes are grown pretty well up on the trellis, between two and four feet from the ground, thus steering a middle course between the old low system and arbor training, the two extremes.—Ed.]

OUR APOLOGY.

We acknowledge the receipt of a great many invitations to Fairs in different counties of this and the neighboring States, even our Eastern brethren have sent us many tokens of regard of that kind. We deeply regret that we are unable to attend any of these gatherings, but cannot get away from here. We have been censured even for neglecting a duty our friends seem to think we owe to the public, and for not exhibiting the fruits of our vineyards here. They forget that this is but a new Colony; we have only a few varieties bearing here, and as they are the old varieties with which everybody is familiar, we did not think it necessary to do so. Everybody knows Concord,

Norton's, and Herbemont, and although we could exhibit such fruit of them as is not shown every day, we preferred to wait until next season, when we intend to make such a show, if life and health is spared, as will convince them that we are not dead yet, nor negligent of our favorite fruit, the grape.

The crop of our old and tried favorites is so abundant here, that it keeps us busy almost night and day, to joyously work it into wine, and we can hardly find time to write and revise the MS. for this number. This must plead our excuse with our friends for this seeming neglect of them. We can assure them that our heart is still as warm for the good cause as ever, and that it would have given us sincere pleasure to met them all at their several gatherings.—Ed.

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THE GRAPE CULTURIST.

VOL. I.

NOVEMBER, 1869.

No. 11.

NOVEMBER.

WORK FOR THE MONTH.

This will be a continuation of the work of last month; therefore we need not say much about it. Fall planting should be done in this month, about which full instructions have been given in former numbers. The rows for the planting should be slightly elevated, so that the water will not settle and freeze about the young plants during winter. Tender and half tender varieties, such as Herbemont, Cunningham, etc., etc., should be slightly covered with earth.

And here let us say a few words about this great bugbear of so many grape-growers, winter protection, which often detains men who are willing to do any work during summer, to plant such varieties as Herbemont, etc., which is, in the proper soil and with winter protection, a sure crop every year. We can assure them that it is not half as laborious as they suppose. If pruned at the right time, the canes bent down along the trellis, and a few spadefuls of earth thrown on them to keep them in position, the principal

part of the covering can be done with the plow, and the whole labor to cover an acre and take it up again in spring, will not cost ten dollars. Is this an object, when a certain crop of such delicious grapes as the southern division of the Aestivalis family yields, can be gained by it every year? We have practiced it with the Herbemont and Cunningham for the last eight or nine years, and they never failed yet to reward us by a heavy crop. How much patient toil has been expended on the Catawba without success, to save it from mildew and rot during the summer, by the same men who begrudge this slight labor in the fall, when they have much more time at their disposal, and are sure of a rich reward for their labors.

Cuttings should be made in time, and the wood never be allowed to get in the least dry; but they should be packed away every day, if possible, tied in bundles, in dry, sandy soil, and covered with earth.

PRUNING THE VINE.

As most of this important operation should be performed this month, we will try to give a few general hints about it, which, we trust, will be of service to those of our readers who may be new beginners. We can hardly call them *rules*, for fixed rules can hardly be given for an operation which requires so much thought and close acquaintance with the growth and bearing habits of the different varieties. We will first try to tell you what you should *not* do, and then come to what we think may assist you in what you should do.

Do *not* go to work like an automaton, without forethought, nor employ any one who is not willing to think while he works. If you have closely observed your vines during the summer, the habit and growth of each variety, pruning will be plain enough to you. You will easily see what part and how much should be cut away. Any workman who is not willing to observe and think while he works, has no business in the vineyard.

You will have observed that some varieties will bear more readily and larger bunches, upon the laterals of the young canes, some upon the spurs of a few eyes on old bearing branches, and some will fruit readily upon the principal canes. This should govern you in pruning. The Concord, Cunningham, Goethe, Hartford, Herbemont, Ives, Louisiana, Maxatawny, Martha, Mary Ann, North Carolina Seedling, Perkins, Rulander, Telegraph and Wilder, will all fruit best on the laterals of the young canes of last summer's

growth, provided they are strong enough, which they will be if they have been pinched according to our directions in the article on summer pruning. They are all strong growers, the fruit buds at the base of the principal canes are seldom well developed, and will not bring much fruit. We therefore grow the fruit on the laterals, which can be shortened in to from two to six eyes each, according to their strength. All these rank growers should have plenty to do, that is, they should be pruned long, much longer than is generally done. Let us presume that your vine is four years old, therefore in its full-bearing vigor, has three principal canes, each with four laterals. If you prune these to the average number of four buds each, you will have forty-eight buds on all the laterals. These can produce double the number, or ninety-six bunches, which would of course be rather too much. But some of the buds will generally fail, some bunches will be imperfect, and you can easily reduce this number to about sixty at the first pinching, should more have appeared. We have made the observation repeatedly, and especially this summer, that the Concord rotted most where pruned short, as the rank growth of wood and leaves would not allow the free circulation of air.

Another class we have which produces best on spurs on old bearing arms or canes. The Clinton, Cynthia, Golden Clinton, Hermann, Huntingdon, Norton's Virginia, and Taylor, belong to this class—strong growers also, and especially those belonging to

the *Cordifolia* class. They will also bear better on spurs on laterals than on main canes, but do not produce their best or handsomest fruit until they can be "spurred in" on old arms. For this purpose select for your spurs only strong, well ripened shoots, cut out all the small and imperfect ones, and cut those back two to three eyes each. You may leave the same number of buds, say from thirty to fifty, according to the strength of your vine, and always bear in mind that you can reduce the number of bunches when summer pruning.

A third class produces readily and abundantly from the main canes. These comprise the varieties which do not grow very strong—the Alvey, Cassady, Creveling, Catawba, Delaware, Iona, and Rebecca. They will produce best on short canes of say six to eight eyes, and the old renewal plan may be as good as any for them. From twelve to twenty-four buds are generally enough for a vine. The number must again vary with strength and age. There is much more danger of

overtaking this class than both of the others, and they should never be allowed to bear too much.

Do not prune too close to the bud, as it is then apt to be injured by the cold. Leave from one and a half to two inches of wood above the eye. Old, dilapidated arms or stubs should be cut out clean and close, and if the wound is too large, it may be covered with grafting wax or shellac.

The rules, of course, will not apply in all cases, and may be modified according to circumstances. For instance, if you have no suitable young canes with laterals on vines of the first class, they will also bear well on healthy arms of old wood, as recommended for the second class, and *vice versa*. The intelligent vintner will soon learn how far they are applicable. Nor do we pretend to assert that there are not other methods equally well adapted—perhaps better—than ours. We should be glad to have this subject fully discussed in our columns, and hope our readers will give us their views freely about it.

EDITOR.

THE OUACHITA GRAPE.

We have received a very handsome photograph of a bearing vine of a wild grape, found on the plantation of Dr. G.W. Lawrence, on the Ouachita river, Hot Springs county, Arkansas. It seems to be immensely productive, with long, handsome, compact bunches. The Doctor writes to us that he will try it extensively, but gives no further de-

scription. We have requested him to send a description, and shall gladly try it here if he will send us wood to start it. We have a good deal of faith in the wild grapes of our neighbor State, which has already presented us with one of our most valuable ones—the *Cynthiana*, or Red River.

THE MANAGEMENT OF YOUNG WINES.

If left on the husks in the fermenting vats, these should be closed air-tight as soon as fermentation has ceased. This can be done by nailing strips of cloth on the rim of the vat; then screw down the cover, and close the whole with tallow. If pressed and put in casks, they need not be completely filled until violent fermentation is over; then fill with wine kept for that purpose, up to the bung, and when the wine has become perfectly quiet, drive the bung perfectly tight. In December the wine should be clear, and should then be racked off into clean casks, well fumigated with sulphur.

In racking wine, do not quite open the faucet, so that the wine, in running, will make a circle, and thus come into contact with the air. This, and frequent rackings, will do much to hasten its ripening. We hope much in this respect from the air treatment of Mr. R. d'Heureuse, and shall try to persuade him to explain the process and

give hints about the use of his patent, through our columns.

It is a mistaken and long exploded prejudice that "the lees are the mother of the wine," and that, consequently, the wine should remain on them until spring. The lees are the excrements or impurities contained in the wine, which settle at the bottom during fermentation and immediately following it. How wine can, then, be benefited by remaining on these impurities, we cannot see, and we think we have all the authorities on our side. The more complete this purifying process, the riper and better, consequently purer and healthier, must be the wine. Any remnant of the ferment or lees still suspended in the wine must, necessarily, be disagreeable to the taste, and injurious to the system. We would therefore advise frequent rackings as one of the best means to ripen and purify the wine.

We shall return to this subject again in a future number. EDITOR.

A VINEYARD PLOW.

As the subject of Vineyard Plows appears to be receiving attention, I send you my experience, hoping that it may be of some benefit to the fraternity of grape growers another season.

I noticed last August, in the *Journal of Agriculture*, a cut of the French vineyard plow, and believed that it was just what I wanted, as I was about to

"plow off and hoe" my vineyards. From the reading of the article, I could not gather any hope that such a plow could be purchased in St. Louis, so I sought to improvise one myself. I unscrewed the taps that confined the share and mould board of a single horse Moline plow, and detached the under works of a Deere sub-soil plow, so as to have a center plow beam;

these I took to town and had the blacksmith affix them so that the plow hung six inches to the left of this beam—the beam being over the mould-board instead of the point and bar; this he did, by taking a bar of iron five inches wide for a stock, and so bending it as to throw the plow off in the position desired, then drilling bolt holes to correspond with those on the plow, and putting two braces, one from the heel and the other from the mould-board, up to the beam, beneath the handles, I thought I had the main principle of the French plow, for the small sum of \$1.50.

Putting it in the hands of a man who would not be likely to prejudge the thing, I put it to work, and had eight acres plowed so close to the vines that there was soil of but about half the width of a hoe left undisturbed on each side of the vines, which saved a great deal of hand labor.

I will add, lest others may try this arrangement, that before we got through our plowing, it was found

that the bar and point must be exactly parallel with the beam, for if the point turns off a little, as it does in all plows, the plow will lead at once against the vines and posts; also, that the stock should be of steel, iron not being stiff enough.

It was found that while the plow worked very satisfactory in making the last or close furrow, it was not so handy in the first one, where the plowman holds his plow more squarely; consequently the centre furrows were plowed first with the ordinary plow, and the close furrows afterwards with this, although this will do the whole of the work very well.

I have since seen the French plow at the St. Louis Fair, and believe that there are no other ideas to steal or borrow from it.

Very respectfully,

DEAN W. TAINTER.

[Thanks for the very interesting communication, which, we doubt not, will be valuable to many of our readers.—Ed.]

REPORTS ON GRAPES.

We give a continuation of these in the present number, and will endeavor to report on the so-called fancy varieties, and some of the newer ones, in this neighborhood, and what we could learn of them at Hermann.

AUTUCHON (Arnold's No. 5). Some mildew on foliage; has made a fair growth the first season.

ADIRONDAC. Slow grower and poor bearer; hardly worthy of further trial.

AGAWAM (Rogers' 15). Mildewed and rotted badly; has always been subject to disease as long as we have had it.

ALLEN'S HYBRID. Only an amateur's grape. Fine quality, but tender and subject to disease.

ANNA. Unworthy of culture here. Poor grower; subject to rot and mildew.

ALVEY. Has mildewed badly in the river bottom, where it did well last year. The grape is so good that we

shall give it further trial, and hope yet to succeed in finding the proper locality and soil.

BRANT (Arnold's No. 8). Fair growth; some mildews on leaf.

BARRY (Rogers' 43). Rotted and mildewed badly here.

BLACK HAWK. Healthy in foliage. We have not fruited it here, but have good hopes of it.

BLOOD'S BLACK. Tolerably healthy, productive, and very early. For an early market grape, it is very desirable, though not very good in quality.

BERKS, or **LEINGH**. Suffered from the same diseases as the Catawba, but is of better quality. We will test it further.

CASSADY. Dropped its leaves on southern exposures, but did well on eastern and northern slopes. No rot, but some mildew on foliage.

CLARA. Only an amateur's grape, but better than Allen's Hybrid, and more healthy. One of the best in quality, but too tender for general culture.

CANADA (Arnold's 16). Very ne grower, and tolerably healthy.

CREVELING. Has done well on northern exposures, but behaved badly in the bottom and on eastern and southern slopes. We cannot, as yet, form a conclusive opinion of its merits.

CORNUCOPIA (Arnold's No. 2). Strong grower, and healthy.

DIANA. Mildewed and rotted like its parent, the Catawba.

DEVEREUX. Mildewed considerably, though we are loth to give it up, on account of its superior quality.

GOLDEN CLINTON. Resembles Taylor closely in fruit, but seems to set better.

Foliage like Clinton. Subject to the gall fly.

HERMANN. Healthy, vigorous and productive again. We think it can be safely recommended as a wine grape, for this latitude and further South.

HETTIE. Much like Isabella, but at least not better than it. Unworthy of culture here.

HUNTINGDON. Set an abundance of fruit, but rotted and mildewed badly. We think it decidedly a poor stick.

IONA. Suffered from mildew and rot, but not quite as bad as the Catawba. Is very unreliable here.

ISRAELLA. A very poor bearer, and suffered a good deal from rot and mildew.

LOUISIANA. Sound in foliage and fruit here, but mildewed somewhat at our former vineyards, at Hermann. Bore splendidly at Mr. Münch's vineyards in Warren county, Missouri. Should be extensively tried, as it will make a splendid white wine.

LEXOR. Poor bearer as usual.

LINDLEY (Rogers' No. 9). Suffered from mildew and rot, more than we have ever seen before, but ripened its wood well, and will behave better, we trust, next season, as it has always been healthy before.

MARION mildewed and rotted badly.

MARY ANN. Healthy and productive, as usual. Valuable as an early market grape, as it ripens before the Hartford.

MASSASOIT (Rogers' 3). Rotted and mildewed some here, on new, rich soil. In our former vineyards at Hermann, it did well, was healthy, and is of excellent quality. It will, no doubt, make

a very fine wine, and, as it ripens with the Delaware, is a much larger berry, very productive, and of very fine quality; it would also be an attractive market fruit. Should be generally tried.

MERRIMACK (Rogers' 19). Vigorous grower, but showed rot and mildew. It is a very handsome grape, and of fine quality, but we think Wilder (Rogers' 4), which is of the same size and color, and of even better quality, preferable to it.

MILES. Has had no fruit on yet, although the vines were very strong and in their third year. General characteristics of the vine much like Ives; foliage healthy.

NORTH CAROLINA SEEDLING. Some rot, but a very large crop in our former vineyard, at Hermann. It can be depended on, with long pruning to tame down its excessive growth.

OTHELLO (Arnold's Hybrid, No. 1). Vigorous grower in this its first year. Some mildew on foliage, but it seems to have ripened its wood well.

PERKINS. Always reliable; a very early grape, productive, and a good market fruit. Most too foxy to suit our taste, but very sweet.

PAULINE. This seems to be a failure here, however fine it may be at the South. Mildewed and rotted badly.

PAXTON. The only vine we have of it made a wonderful growth its first season; foliage much like Hartford, healthy.

REBECCA. Badly defoliated, and we think, belongs to the varieties that "have been."

RENTZ. Foliage healthy, vigorous grower, but has not yet fruited with us.

SALEM. Did not bear here as yet. At Hermann it rotted and mildewed, and we hardly think it reliable enough for our climate, though of very fine quality.

TO KALON. So much subject to disease that it is not worth cultivating here.

UNION VILLAGE. Rotted badly, and is in every respect inferior to Wilder, which is equal to it in size of bunch and berry.

WILMINGTON. Proved to be Catawba. Whether there is a distinct variety under that name, we do not know. We have tried it twice, from different parties, and found it Catawba both times.

WALTER. We are sorry to say that this variety has utterly failed to warrant its Eastern reputation here, the first season of its trial. We were induced to plant liberally of it in the experimental vineyard here, as we were convinced that its originator, Mr. Caywood, was fully satisfied of its merits there, and sold us the vines with the express condition that they were not to cost anything if they did not grow entirely healthy and reliable. The plants arrived in good condition, and were planted carefully, on an excellent piece of ground, well prepared. They started finely, but lost their leaves after the first spell of wet weather, and we fear the most of them will not survive the winter. It is only another illustration of what we have asserted long ago, "that there is no grape, as yet, nor do we think there will ever be one, which can be relied upon in all parts of this country."

WEEHAWKEN. This, strange to say, although it shows its foreign origin in every leaf, branch and tendril, has stood

the summer remarkably well, with foliage remarkably healthy. We are anxiously waiting its further development. Our vine is only one year old.

WILDER (Rogers' No. 4). Fine in every respect; fruit ripened well, with little rot, although it lost some of its leaves. This promises to be our most valuable market grape, and does honor to the venerable pomologist whose name it bears.

ROGERS' HYBRIDS YET UNNAMED. No. 2 has suffered from rot at Hermann. No. 5 has not borne yet, but has healthy foliage. No. 8 was healthy again, and promises to be valuable. No. 12 has rotted and mildewed considerably. Other numbers are too young yet with us to say much about them.

The past season, though in many respects disastrous to the grape grower, has also not been without its benefits, and its lessons will be of lasting influence. Such summers teach us, better than anything else, what varieties we can rely upon, and which we should plant, to count upon a sure crop *every* year. It has also convinced us again, that with the large list of grapes at our command, and a judicious selection, there need be no *total* failure, and consequently, that the grape crop now is a surer one than that of any other horticultural or agricultural product, where the soil or climate is at all favorable.

EDITOR.

EAST BETHLEHEM, PA., September 16, 1869.

MR. GEO. HUSMANN:

Dear Sir: Grapes are a right good crop here this year, except Concord, which happened to bloom just at a time when a perfect deluge was coming down; it is not over one-fifth of a crop.

Catawba suffered considerable; rot, probably one-third of a crop. Delaware entirely healthy; also Iona and Rogers' Hybrids. Hartford, very heavy crop.

Grapes are entirely too low here to be profitable. There is no market for them, and no demand whatever for native wines, no difference how good they are. In Pittsburgh—our market—the prevailing drink is whiskey. Of wines, none but Port and Sherry, (and they made in New York City,) are used. A fair article of Catawba wine I saw offered at 80 cents per gallon. I was not prepared to make wine this year in large quantities, and was compelled to make sale of the grapes or the juice. I sold the latter just as it runs from the press (all varieties), for 80 cents per gallon. A poor sale, but the very best I could do.

Would be glad to hear of the crop in your vicinity.

Very truly yours,

JNO. H. JENKINS.

BLUFFTON, MO., October 20, 1869.

FRIEND HUSMANN:

As reports on the new grapes, as well as of the old ones, seem in order, I will give you the result of my experience the past season. Most particularly will I dwell upon the Hybrids of Mr. Charles Arnold, of Paris, Canada West.

I have two plants each of Autuchon, Othello, Cornucopia, and Brant, as also one of each of his five numbers near by. These have all grown well, and most likely will bear fruit next season, without the least injury from mildew, or sun scorch, although at one time there seemed to be a little sign of mildew, but their vigor overcame it.

Now, just alongside of these, I had some hundred each of Creveling and Delaware, which were defoliated by mildew by the middle of August. Although they had been planted the year previous, and had a year's start, these Canadians are three times the size of the Delawares and Crevelings. The former always appeared like an oasis in a desert, when viewed from a distant hill.

In another place, some five hundred feet above the river, are some grafts of Brant and Antuchon, which both started late and mildewed badly; so that at one time they looked as if they had gone down, (not "up" as the phrase goes.) But their constitutional vigor seemed to fight it out, and push vigorous shoots beyond the diseased part, healing as it were, the disease, so that now they have six to eight feet of ripe wood. I have great hopes that these varieties will prove valuable with us.

What shall I say of Walter? From two hundred good vines planted in the spring, and which started well, I could pack all the leaves they contained in my hat on the first of September; and, although some had made two feet of growth, I doubt if a dozen good eyes could be found fit for grafting.

This is much to be regretted, as we have full belief in its good quality, and paid high for the vines last spring. But "never say die" is my motto, and as soon as I can get good wood for grafting, I intend getting it well started on strong roots, and see if that will not help.

We would not like to discard the Delaware; yet it did no better this season than the Walter.

Iona mildewed considerably, yet, as

usual, made sure to ripen a good share of wood.

Weehawken, a purely foreign variety, although raised in this country, by Horticola, gives me much pleasure. From very small plants, set a year ago last spring, I had this season a few small bunches of most excellent white grapes, while the vines are vigorous and entirely free from all manner of disease; and no doubt will prove hardy here, as its wood is ripe out to the tips of the shoots.

This season's observations, added to several before, convince me that we have a noble substitute for the once and still somewhat loved Catawba, both as a table and wine grape. I mean Rogers' No. 10 (Goethe.) I fruited that perhaps first of any one in Pennsylvania, and the expectation (very flattering), has been more than realized.

Yours truly,

S. MILLER.

GEORGE HUSMANN:

Dear Sir: I thought last month of sending you a few notes on the grape crops here at Hermann, but concluded to wait until the battle was over, and am very glad I did, for I should have reported our crop of Concord wounded, when the fact is that it is heavier than usual.

Those who estimated closely expected five pounds to a vine, where, but for the rot, they would have had about six, and on gathering they have seven and upwards. Of a dozen vineyardists whom I recall to mind, all have this experience, and one, whose vines have averaged very near six and one-third pounds for three

years in succession, gathered this year seven.

Our season, which in summer seemed so unpropitious, took a turn at the eleventh hour, and we have a higher grade of must than last year, which was esteemed so favorable to the grape. The Concord graded from 70 to 84 deg. Oechsle's scale, and the Norton Virginia 100 to 118 deg. If old nature does not give us any worse grape seasons than this, then Central Missouri need never fear for its grape harvest.

Of the varieties that withstood the unfavorableness of the season, the following are the most prominent: Concord, Norton's Virginia, Cynthiana, Martha, Ives, Taylor, Hermann, Rulander, Herbemont, and Rogers No. 1.

It was believed that the season would be unfavorable to the ripening of the "Hermann," our latest grape, but it failed not, and had season beyond. We visited Mr. Langendorfer's vineyard in September. He has the largest "Martha's Vineyard" in the West, and is enthusiastic for that grape and his own seedling, the "Hermann." He has some eighty seedlings under way, the foliage of which, with four exceptions, were healthy. The Scriptures tell us that of book-making there is no end. What shall we soon say of grape-vine varieties? Ought we not to soon turn our backs on all new comers that cannot, without question, excel those we have?—the Concord in productiveness, or the Norton in weight and color, or the Taylor for a strong, fine white wine. Mentioning the Taylor, reminds me of the fact that one of my neighbors

has an acre of Taylor three years old started from cuttings. By accident there are three Clintons among them, and all the fruit that was gathered from the acre this year was taken from the vines surrounding these Clintons.

I understand that the Rogers No. 1, or Goethe, is a strong claimant for our favor as a white wine grape. Shall we lay aside the Martha or the Taylor, and if so, how long before we shall lay aside the Goethe for another, and how long will it take the wine-consuming community to "get the hang" of our wines. I believe there is a need of centering the attention of grape growers on one variety of white wine grape, so that there may be sufficient of that variety planted to ultimately become known in the market. We are now divided on the Rulander, Herbemont, Taylor, Martha, Goethe, and one or two others, and a wine merchant tells us he cannot sell these wines, because there is *no call* for them. Now let us stop; if the last is the best—i. e., the Goethe—let us have it recommended for general cultivation by the Mississippi Valley Grape Growers' Association; and if it is not, let them name the one that has the strongest claims for favor, and let us abide with that grape until another pre-eminently superior demands its place.

Very respectfully,

DEAN W. TAINTER.

[Glad to hear so good a report from our old "stamping ground." We doubt whether a recommendation from any society would have the desired effect. If we once grow sufficiently of any grape to offer its wine in large quantities, the public will

soon begin to know it. Just think of the Concord, its recent introduction as a *wine* grape, and the extensive sale it finds already. You are right if you say we should not plant any new variety extensively, unless we are fully satisfied that it is superior to anything we have already. But to find this out, we must first try them on a small scale. We here in Central Missouri can safely plant the Martha, Herbemont, Rulander, Maxatawney, and Goethe, for *white* wine, and need not be afraid but each will find a market. We think Goethe, Martha, and Maxatawney safe and reliable in nearly all locations in the State, consequently adapted to general culture.

Please let us hear from you again.
—Ed.]

BOHEMIA FRUIT FARM, MD., }
October 13, 1869. }

MESSRS. EDITORS :

Not knowing whether any other of your correspondents would report to you upon the grapes at the American Pomological Exhibition, held at Philadelphia in September, and as it was our good fortune to be attendant thereon, we would like to give you our impressions regarding some of the more prominent varieties.

We thought the Concords on exhibition were very ordinary indeed, while there were some very fine Delawares. Those taking the first premium (exhibited by H. A. Dreer, of Philadelphia), must have weighed a half pound to the bunch.

There were excellent specimens of the Maxatawney shown. We think the merits of this grape have been strangely overlooked, as, from what we can learn of it, it is fine for both table and wine,

and certainly a very delicate and inviting bunch to the eye.

Jonas were generally very fine—better than we had ever before seen.

We were rather disappointed in the appearance of the Martha. To us it looked like a dark grape, still green, just beginning to darken for coloring. It was well represented, and we had a fair opportunity of judging. We should think the Maxatawney were far preferable to it.

To say we were pleased with Rogers Nos. 1, 4, and 9, Goethe, Wilder and Lindley, would but faintly convey our impressions. They were elegant—standing foremost in the grape department. Unfortunately, there was only one specimen of the Salem on exhibition, and that by a large grower who has his pet in the Martha, and consequently it came out at the little end. Those who have fathered it were certainly remiss in not having it well represented.

At the time of our visit, the stock of the Eumelan was pretty well exhausted, but from what we saw of it, unless it had some special recommendation to the taste, it will not begin to compare with the Wilder.

The Walter grape is certainly very attractive in appearance. It was represented by the trunk and arms as produced by Fuller's method of training, and the bunches hung splendidly upon the vine. The manner of exhibition certainly testified to the productiveness of the vine, and the bunches, for their size, compactness, and color, were a feast to the eye. It had the appearance of a mammoth, finely developed Delaware.

Underhill's Croton Seedling is a long,

rather loose bunch, about the color of the Goethe, but not so large in berry. Its appearance is rather attractive, and, we should judge, would be a variety well worthy of testing.

We have endeavored to give you a fair, unprejudiced account of the impressions the different prominent varieties produced upon us. We went and viewed with the sole desire to find out the best and most attractive varieties, and to plant them.

We have made a couple of hundred gallons of wine from the remnants of our Concords, and they give a fair test of 76 deg. by Oechsle's scale. If any of your correspondents can beat this on Concords, we would like to hear from them. We have still some Clinton wine to make, and will report the quality of the must in our next.

Yours truly,

EDWARD P. HIPPLE.

[Thanks for your interesting communication. We also think the Maxatawney worthy of general culture, at least here. You were mistaken in the

color of the Martha, which is, when very ripe, pale yellow, covered with white bloom. In our opinion, the must of the Martha and Maxatawney should be mixed, when it will make an excellent wine. We think each has qualities which the other lacks, and a combination of them will make one of the finest white wines we know. We only wish we had twenty-five acres of each in bearing. These and the Goethe will be the grapes from which the light white wines of the country will be made—wines which can be grown as cheap as the lightest French and Rhenish wines, and far preferable to them in quality. The Lindley will also be of this class, but of rather heavier quality, while we are not quite satisfied with the habits of the vine as yet. The Salem has suffered with disease here and at Hermann, and although of fine quality, it does not quite come up to our standard of a grape for *general culture*. Concord must has frequently come up to 83 deg. here, this fall, but 76 deg. does very well.—Ed.]

THE VINE IN EUROPE—MANURES.

(Continued.)

Herbaceous plants and vegetables furnish numerous instances of the influence of peculiar manures on the quality of the products. The cheese and milk of certain localities are highly prized on account of the peculiar aroma of the grass in those localities.

Besides this bad influence of odor-

ous nitrogenous manures on the wine, we must bear in mind that this process restores to the soil only a small portion of the potash consumed by the canes, the leaves and the fruits, and that it also tends to exhaustion, since it returns to the soil but one-fifth or one-sixth of the amount of potash taken from it. Moreover, nitrogenous

substances exclusively used hasten the decay of vineyards and the exhaustion of the soil. We have a report, from Baron von Liebig, of the exhaustion of a vineyard at Bingen, on the Rhine, through the exclusive use of horn scrapings. The result at first seemed good, but after a few years the growth and production decreased rapidly. The extra growth induced by the horn scrapings had divested the soil of all its potash without returning any.

Nitrogenous manures also increase in the grape the proportion of albuminous and mucilaginous matters, and correspondingly diminish the saccharine element; the wine contains less alcohol, and is consequently more subject to alteration. In fact, sugar-producing plants never want strongly nitrogenous manures, and sugar makers are aware that beets manured with highly nitrogenous compounds, although more bulky, contain less sugar and more organic matters, to the detriment of the manufacture.

THIRD PROCESS.

It consists in returning to the soil the residuum of the fabrication, or supplying it with lignous and fibrous elements. A very good process in itself, it is nevertheless insufficient. What is needed is a manure in which potash is abundant. Ashes, chiefly those obtained from the incineration of the canes themselves, to be used either alone or mixed with lime, are, in my opinion, the best manure for vineyards.

The learned researches of Persoz have demonstrated that for the produc-

tion of grapes the salts of potash stand unrivaled.

In too many localities in Europe the vine prunings and croppings are used as common fuel, and even the ashes are employed for domestic or industrial purposes. Whence, then, shall potash be obtained in sufficient quantity, at prices accessible to all vintners? Various sources of supply have already been resorted to in different countries with gratifying success.

At Deidesheim, on the Rhine, where the extensive vineyards are famous for the quality of their wines, the vintners are wont to use decomposed basalt.

Immense beds of potassic salts have lately been discovered at Stassfurt, Germany and have been used in German vineyards with excellent results. These salts can be concentrated so as to yield 80 per cent. of sulphate of potash. Their cost at Stassfurt is about \$3 per 100 lbs.

The residuum or waste of salt works, after the extraction of the marine salt, will yield sulphate of potash in the proportion of about 30 per cent. The cost at the French and Italian salt works is about \$1.50 per 100 lbs.

Professor Bechi, in endeavoring to procure for Tuscany sulphate of potash at a cheaper rate, discovered near Follonica a supply of sulphate which will amply meet the wants of Italian vintners. It is a rocky formation called alumnite, which contains 25 per cent. of potash. The pure sulphate will not cost over one cent a pound after paying the expenses of quarrying, blasting and parching. This last operation is required to render the sulphate more soluble, and secure the

full yield of potash. Thus prepared the alumnite is employed, either alone in calcareous soils, or mixed with lime in clay soils.

True, in thus applying a mineral manure containing much potash, the yield of wine is not equal to that afforded by nitrogenous manures; but what is lost in quantity is more than

compensated by the fine taste, strength and bouquet of the wines so obtained.

Clay soils generally contain much more potash than others, and it is also more easily assimilated. Indeed, it is important to note that not only the presence, but the easy assimilation of potash is an essential requirement.

THE AUTUCHON GRAPE.

(ARNOLD'S HYBRID NO. 5.)

Grown by Charles Arnold, of Paris, Ontario. It is a hybrid of Clinton with White Chasselas, and has some of the characteristics of both. From the little we have seen of it, from samples sent by Mr. Arnold, it is a grape of fine quality, and young plants of it have not suffered much from disease last summer.

Bunch very long, loose, shouldered; berry below medium, round, green

with white bloom; sweet, with melting flesh, and little or no pulp; flavor much like White Chasselas, but more sprightly—enough to show its Clinton origin; said to ripen with Delaware.

The cut was kindly furnished by Mr. Arnold, and although the grape has not fruited here, we think it worthy of a trial. If it should prove healthy here, it will certainly be an acquisition.

[From the *Old World in its New Face*, by H. W. Bellows; published by Harper & Bros., N. Y.]

LIFE IN DUESSELDORF.

Duesseldorf is a model German town, solid, dull, devoted to art and music, with a fine park and capital

accommodations for the first necessity of the Germans, a place for gathering over their wine and beer with their



AUTUCHON.

wives and children, and spending at least two evenings in the open air, with orchestral music and pleasant chat. The night I passed in town happened to be the anniversary of the battle of Königgrätz, and from five to ten P. M., the best portion of the citizens were in the tea-garden, adjoining the town hall, enjoying the rational amusement of excellent music from two bands, one of strings and the other of brass, who alternated with each other. Had a member of the Total Abstinence Society entered that assembly and seen a hundred tables covered with bottles half empty, of every shape and color, mingled with mugs of beer and cups of tea and coffee, and men, women and children seated about them, and all partaking of the various drinks, he would have been in despair at the complete sway of wine-bibbing among the people of Düsseldorf. The first ladies and gentlemen, the ministers of religion, the young women, the old men, the innocent children, all would have been in one condemnation—a wine-bibbing generation. And yet a careful survey of the garden would have failed to show one single person excited to indiscretion or the loss of self-control—one single noisy or tipsy man. And here for four or five hours are whole families in the open air, engaged in domestic and social chat, enjoying music and the sympathy of their fellow-creatures instead of being scattered and divided as with us—the old here, the young there, the men in one place, the women in another. As I looked upon the cheerfulness and moderation, the cordial intercourse, the absence of carking cares or of haste and self-condemnation in this German tea-garden, I felt that

Germany understood social life far better than any portion of America. As to the attempt to abolish drunkenness in America by a general assault upon the use of all things that can intoxicate, it is well meant, and has its excellent effects. But it is greatly to be feared that it is not enough in accordance with natural laws to be a permanent influence. We must improve family life, and especially must we cultivate the participation of men and women, old and young, in common pleasures, before we can hope to exorcise the demon of excess and sensuality from American society.

It is much to be regretted that the friends of temperance have, of late, been trying to unsettle the opinion that drunkenness is rare in the vine-growing countries. It is so patent in France and in Germany, that intemperance in the form of drunkenness is a most exceptional vice that only willful blindness or partisanship could deny it. I do not recollect to have seen one tipsy man since I left Paris, and only one in Paris, and I have diligently sought the place where, in our country, they would be found. The truth is, wine is one of the most common and one of the most beautiful gifts of Providence; an article joined with corn in the praises of saints. The countries which possess it understand its use, and are just as little subject to excess in using wine as in using corn. Excess is found everywhere, and all Heaven's gifts are liable to abuse; but to expect France and Germany to give up wine or beer is absurd, nor would anything but harm come from the attempt to enforce the disuse by legislation.

ON OUR TABLE.

Descriptive Catalogue of Grapes and Small Fruits, grown by George W. Campbell, Delaware, Ohio. A very good list of standard varieties, with some novelties, well illustrated, and descriptions in the usual happy and terse manner of our friend Campbell.

Wholesale List of Middletown Nurseries, Monmouth county, N. J., E. T. Field, proprietor. A list of peach trees, Concord grape vines, small fruits, potatoes, melons, etc.

Price List of Runson Nurseries, A. Hance & Son, Red Bank P. O., N. J. An exact copy of the foregoing.

Wholesale Trade List No. 3, P. J. Berkman, Augusta, Ga. A very full list of all sorts of good things, large and small fruits, evergreens, ornamental trees and shrubs, roses, flowers and bedding plants, etc.

Price List of Grape Vines, Trees, Small Fruits, etc. E. A. Riehl, Alton, Ill. A very complete list, with moderate prices.

Price List of West Avenue Nurseries, Rochester, N. Y., A. C. Fish,

proprietor. Grape vines, dwarf pears, currants, and quince stocks.

Grape List of the Cliff Cave Wine Co., St. Louis, Mo., Dr. C. W. Spalding, president. A good list of leading varieties, with some novelties.

List of new Apples and Peaches, Ozark Orchard Nursery, South Pass, Union county, Ill., A. M. Lawver, proprietor. A large list of novelties, gathered from all parts of the country.

Catalogue of H. Michel & Bro., Gravois Nursery and Garden, St. Louis, Mo. A very complete list of flowers and bedding plants, grape vines, small fruits, etc. This old standard firm is too favorably known to require recommendation from us. Their catalogue gives evidence of their prosperous condition.

Chapin, Willard & Co.'s Price List of Nursery Stock, Kewanee, Ill.; Grinnell, Iowa. A general assortment of nursery articles.

E. Y. Tea's Catalogue, Richmond, Ind. An extensive list of all sorts of nursery stock, at very moderate rates.



EDITORS' LETTER BOX.

WESTCHESTER CO., N. Y., September 21, 1869.

MR. GEO. HUSMANN:

Dear Sir: Yours of September 10th came duly. We observe you class the Eumelan as a tender-leaved variety. We were fully aware you have not been on friendly terms with Dr. Grant, or the Doctor with yourself, but we cannot understand why the fact that Dr. Grant has had to do with a grape, should condemn it, either for Missouri or any other State. We have the Concord and Hartford, and find the Eumelan as vigorous and hardy as either, while the grape far surpasses either in quality. The Eumelan grew side by side with the Hartford and Concord for fifteen or twenty years before it was purchased here, and such men as P. Barry, of Rochester, and S. B. Parsons, of Flushing, and others, formed high opinion of its merits, and were trying to negotiate for it. Because it was finally purchased by Dr. Grant at \$1,600, some pronounce "humbug" at once.

Now, friend Husmann, this is entirely unjust to yourselves, for the Eumelan may yet be as valuable West as at the East, and here it has borne the trial well, and is considered a most valuable variety, far surpassing any other black grapes ever introduced here. It succeeds well in many places west of us, and we wish you would personally give it an impartial trial, and if you ever come East, come and see the Eumelan on our grounds.

Hoping to hear further from you, we are yours very respectfully,

HASBROUCK & BUSHNELL.

[We give the correspondence about

the Eumelan, which is now pushed forward with so much vigor by many, because we wish to deal fairly with every one. We never allow private feelings to influence our opinion of any grape, and would as gladly welcome a grape originated or brought forward by Dr. Grant, if it was otherwise of true merit, as any other; and are *entirely* willing to test the Eumelan fully and fairly.

We cannot admit, however, that the Eumelan has been growing side by side with the Hartford and Concord for fifteen or twenty years, as they have not been before the public for so long a time. We doubt whether the original vine of the Concord, grown by Mr. Bull, is over fifteen years old.

We "do not pronounce humbug" because Dr. Grant purchased the stock of the Eumelan for \$1,600, but we call it a *humbug*, if, because the vine has flourished well in that neighborhood, flaming advertisements are sent out, proclaiming its success in *all parts of the Union*, before it has been fully and fairly tried there. The grape growing public has had enough of this; it is time this practice was stopped, and we shall try to do our share in abolishing it. We have no personal antipathies or likings to gratify in this matter, but shall treat all alike, without fear or favor, and hope to do our readers a favor thereby.

Our experience with the Walter this summer, will be found in "Report on Grapes," in this number.—EDITOR.]

ABINGDON, VA., October 4, 1869

FRIEND HUSMANN:

I take the liberty, to-day, to enclose you three samples of grapes by express. Being totally unacquainted with many of the grapes and their character, I do not consider myself judge of their quality. I have marked them 1, 2, and 3. No. 1, amber, and No. 2, black, are both seedlings. No. 3, *the largest*. I want to know what it is.

No. 2 is a seedling of the Festivalis class, I think, gathered 10th of September, from a vine clambering all over some shade trees; never pruned, or any kind of care taken of it. No rot or mildew. Color black.

No. 1, a seedling, selected by the originator from a lot of seedlings of Bland's Madeira and Catawba, he thinks, many years ago. Has been fruiting upon the wall of the house, and a younger vine fruiting upon an out-house neglected. Don't think it has ever been known to rot or mildew. Amber color.

No. 3 rots here some, but perhaps owing to the situation of the vine and no care.

Please do me the favor of giving me your opinion of the merits of the grapes (judging from the imperfect bunches, too long gathered, etc.), whether they are worthy of propagating or not, their qualities, etc.

Respectfully yours,

WM. B. KELLY.

[The grapes arrived in a very dilapidated condition, being half rotten. We can, therefore, not give a decided opinion of their merits. No. 1, we think, has no merit; we have abundance of better varieties. No. 2 is a

black grape with a great deal of coloring matter, very sweet, but little juice. May be valuable for red wine. Please describe the bunch. Those you sent seemed very small. No. 3, as far as we could judge of such imperfect specimens, is Catawba. We would like to give No. 2 a trial, if you can spare us a few grafts.—Ed.]

FREDERICKSBURG, VA., September 15, 1869.

MESSRS. EDITORS:

There is a growing interest in grape culture, and Eastern Virginia is to be the "Vineyard of America." So say Knox, Wm. Saunders, and others. Good authority.

I have an experimental vineyard now for the third year in fruit. Of 44 varieties (leading sorts), the Alvey is pronounced the best, for both wine and table, not excepting Delaware. The Alvey is to be our leading grape, as the Concord is with you. I don't know what Mr. Husmann will say to this. I have vines of it planted in 1868, one of which, pruned long, bore 1,500 to 2,000 perfect bunches this season. *Must* 98°.

Yours respectfully,

WM. T. HART.

[Glad to hear so good a report of the Alvey, which is certainly a fine grape, and will make a fine wine where it succeeds. If it does well with you, plant it by all means, you cannot plant a grape of finer quality. We say that your yield on that Alvey vine was enormous. We should not have thought it possible, as it is here a rather slow, short jointed grower. No doubt climate and soil have brought about this remarkable change. But still, 1,500 to 2,000 bunches is too

much, and you will suffer for it next year, if we are not greatly mistaken.
—EDITOR.]

PEORIA, ILL., September 18, 1869.

GEO. HUSMANN, ESQ. :

Dear Sir: I enclose \$2 for the CULTURIST. Please inform me if I can graft and transplant vines at the same time as we do apple stocks, and oblige.

Yours truly,

C. B. ALLAIRE.

[We have never had much success in grafting and transplanting at the same time, but our friend Miller has for a few years practiced it with better success than we could boast of. We think, upon the whole, it will be more advisable to set out your roots, and graft the March following, when they have made one season's growth. —ED.]

NEW FRANKFORT, SALINE CO., MO.,
September 30, 1869.

GEO. HUSMANN, ESQ. :

Dear Sir: I take the liberty of writing you a few lines for the Editor's Letter Box and rather in reply to friend Dr. Dewey's report from Keytesville, Mo., which town is situated seven miles northeast from us, but at and near our town the bluffs of the Missouri river run within two hundred yards of the bank of the Missouri river, while on the Chariton side (the Doctor's home,) they are from five to seven miles from the river, with a number of sloughs and lakes between these and the river, which is not the case on the Saline side.

Of some twenty-five varieties, only the Rebecca seemed to suffer from leaf blight. The heavy hail storm in June knocked off shoots two feet long, and

therefore destroyed the crop, a few vineyards partly excepted. The Catawba rotted much and apparently earlier than other varieties, but the Mary Ann was the soundest of any, so that I concluded I would put out some more in the spring, just for that reason. Norton's Virginia rotted some, in which I was rather disappointed. No fault about Delaware. Herbemont will yield well, but don't like them, on account of their needing winter protection. The foliage of Rogers' Hybrids Nos. 1, 3 and 4, seemed like it mildewed a little, but not injured by it, and made a powerful growth of wood. Concord rotted considerable, but is a fine, good and showy grape. Gallized Concord wine may be a very healthy drink, but from a natural product it is changed then, partly at least, into a manufactured article. The only drawback we fear here in grape raising, is the selling of wine by the quantity at remunerating prices.

Birds injured the grapes some, principally one kind which stick their bills in them without eating the berry; but birds also destroyed numerous insects.

It was very hard work this year to keep vineyards in a proper state of cultivation, as it rained so much. Some of our Norton's Virginia made a powerful growth of wood.

I would have written this communication sooner, but was detained on account of ill health.

I remain respectfully yours,

HENRY T. SCHMIDT.

[We think you are mistaken in regard to the mildew on Rogers' No. 1 (Goethe). The leaf has a variegated

appearance, naturally, which to the superficial observer looks like mildew, but if you examine the leaf on the under side, you will find it clean and healthy, none of the rusty spots occasioned by mildew. This is a characteristic of the vine. It held its foliage here perfectly healthy until frost, on the 15th of October.

You are mistaken if you consider wine, even when made of the purest grape juice, a *natural* production. Wine is always an *artificial* product, and cannot be made without an artificial process, whether gallized or not; and it requires more art and skill to make poor grape juice into even a drinkable wine, and to keep it from spoiling entirely, than it does to make *good* wine out of it, by *properly* gallizing. Consequently, your argument will not hold good. The little bird you speak of is the Oriole, one of those foes to grape culture who are only here when grapes are ripening. We have no conscientious scruples in waging war upon them.—Ed.]

IONA, (NEAR PEEKSKILL,) }
WESTCHESTER CO., N. Y., October 8, 1869. }

MR. GEO. HUSMANN:

Dear Sir: We have the pleasure of acknowledging letter from you, bearing date September 30th, in reply to ours of previous date. You say "The Eumelan has lost its leaves here for two seasons in succession." Now, Dr. Grant never sold any of the Eumelan vines until the fall of 1868, and we have a record of all sent out by him for trial previously, of which we are assured not one vine went to your place. Now, when you say the Eumelan has lost its leaves there for

two seasons, are you sure you have the Eumelan at all?

Enclosed we send a copy of a letter from J. Smith Horton, of Council Bluffs, Iowa, who had the genuine Eumelan from Iona. See what he says of it.

Now, we propose to give you an opportunity to try the Eumelan, and will send you any number of vines less than 500, of good quality, which you shall agree to plant and care for in the best manner; and we will also send fifty others to be planted in your county, by a gentleman of skill and integrity whom we will name, and if the said fifty vines prove a success for hardiness and vigor and endurance of foliage, then you shall pay us our regular wholesale rates for the vines you plant; but you are to pay not one cent if said fifty vines do not bear themselves as well in every essential particular as the Concord.

We would suggest that you put this letter in your GRAPE CULTURIST also, with copy of letter from J. Smith Horton.

Respectfully yours,

HASBROUCK & BUSHNELL.

P. S. We admit the correction regarding the time that has transpired since the introduction of the Concord and Hartford Prolific, but repeat that the Eumelan was grown side by side with them for many years, and that the Eumelan had grown there for 18 to 20 years.

H. & B.

[COPY.]

COUNCIL BLUFFS, IOWA, Sept. 30, 1869.
MESSRS. HASBROUCK & BUSHNELL.

Gentlemen: I am pleased to report of the Eumelan this year, that it has made a most extraordinary growth,

every leaf being in perfect health and the wood ripening equal to, if not better, than any other vines that I have.

I had some mildew on vines in the adjoining rows, but none whatever on it.

It set six bunches of grape, but they were destroyed by a late frost.

J. SMITH HORTON.

[The Eumelan was sent to Dr. J. S. Hyde, at Portland, Callaway county, Mo., only seven miles above us, by Dr. Grant, for trial, in 1868, and lost its leaves in 1868 and 1869. This we referred to when we said it lost its leaves in *this neighborhood*. We never said that it had been tried in *this place*, but Dr. Hyde's location and soil is truly excellent, on one of the richest bluffs on the Missouri river, similar to our own, and the Doctor himself a good and thorough cultivator.

We gladly copy this letter, also the one from Mr. Horton. According to your own statement, no vines were sold until the fall of 1868, consequently most of the experience is but of one summer; too slim testimony to convince us that it will succeed *everywhere*. We do not think that any variety will succeed equally well everywhere.

We accept your proposition, and will try 25 of the Eumelan. This is as many as we wish to try, after our experience with the Walter and others. You can designate any one in the county you wish, to try the fifty you speak of.

It would appear strange that such a great acquisition as the Eumelan is, according to your testimony and that of Dr. Grant, should be entire-

ly unnoticed for thirty years, although the "grape fever" has been at its highest stage for over ten years now. Strange, indeed, that this shining light should be hid under the bushel so long, with so many good horticulturists in its immediate neighborhood.—Ed.]

FREDERICKSBURG, VA., Oct. 14, 1869

MR. SAM'L MILLER, *Bluffton, Mo.*:

Dear Sir: I have been a constant reader, first of the *Horticulturist*, and then the *Gardener's Monthly*, beginning with the first number some ten years ago, the four years of bloody war excepted; and your name, with others, is associated with very much pleasant reading.

But few have the means to go largely into the business of wine-making, particularly in this section, which was the theater of the contending armies for a long while, and devastated as was no other portion of the country.

Mr. Weith, of Richmond; Buck, of Front Royal; Ribble, of Roanoke county, and Hotopp, of Charlottesville, have put the ball in motion, and I, in an humble way, am trying to create an interest that, I trust, will be felt, to some extent at least, in my own neighborhood.

I believe, from my own experiments, that we have here in Eastern Virginia, at head of tide water, a congenial climate and all other requisites to be found elsewhere for the successful cultivation of the vine. Mr. Saunders, now of Washington, told me by letter years since, that this was the region particularly adapted to it, and Mr. Knox has more

recently reiterated the opinion; and in the few years that I have given it particular attention, with the two-fold object of interesting myself and others, I have had no failures to report, but many disappointments in the quality of fruit, caused by over-sanguine calculations, based upon flaming reports, the fault, if not the *crime*, of the originators.

I differ in opinion with our friend Dr. Grant as to the merits of his Iona and Israella. His \$5 vines I bought some years since have not fulfilled the promise given. The former is about equal to our Catawba. I have been struck with the naked appearance of all our garden arbors where our lady friends have attempted to cover them with the favorite grape vine, and I have wondered that kinds more especially adapted to the purpose have not been recommended through the papers. The Catawba, possessing the fewest requisites, is in most general use. Much disappointment could have been obviated by substituting almost any of the small berry class, with their bright, shining foliage, and rampant growth. I plant on arbors more with the view to shade than fruit, but I have not failed to be rewarded by an abundant yield of perfect bunches from Alvey, Herbemont, Clinton, Norton's Virginia, Lincoln, and Taylor. They are apparently in their element, and do better with me than when close pruned on trellis. I have given my friends vines of this class, whenever my sympathies have been excited by seeing the naked stock of some long-cherished Catawba deforming an otherwise ornamental frame work.

Many persons from the far North,

as also from New Jersey, Delaware, and Pennsylvania, are purchasing lands and making their homes among us, and I look to them to give an impetus to grape-growing and wine-making. They bring both capital and energy, and are more disposed to experiment than our farmers, who are wedded to old practices and customs.

I thank you for suggesting that I should give you a list of varieties in my little experimental vineyard, and I comply with pleasure. There are several varieties that I have wanted, but could not conveniently procure, such as Cunningham, Louisiana, Rulander, Lydia, and Arnold's Hybrids. I would gladly purchase them in order to test them here. I am more and more persuaded that we cannot depend upon the Labrusca class for *fine* wines, though many of them are good in other respects. Martha I esteem highly; also the Rogers' Hybrids Nos. 1, 3, 4, 9, 15 and 19. The 15 is least reliable of the several numbers, in my experience. By the way, the Ives was pronounced the least *desirable* of my forty-four varieties for the table, and about equal in quality to some dozen of our wild grapes of the woods. It fruited this season for the first time, and may do better hereafter, but I want no more intimate acquaintance with it. Our Ohio friends may continue to plant it for wine, but I trust they will not convert others to their standard of taste.

My exposure is southern hillside, and soil coarse sand of moderate fertility, upon which was made heavy application of soapers ashes that had been exposed for some years.

Excuse the infliction of so lengthy

a note, at first intended to be one of thanks only for your kindness. My pressing engagements in the counting-room do not often afford the opportunity to indulge the taste for *writing or talking grapes*, except in broken doses.

Very truly yours,

WM. T. HART.

[With the permission of friend Miller, we copy the above very interesting letter. The writer is evidently an enthusiastic grape-grower, and lover of our favorite fruit. He is certainly right about the Catawba not being adapted to arbor training. It is the last variety we should plant for that purpose. For the South, we know of no finer vines for that purpose than Herbemont or Cunningham. For more Northern localities, the Norton, Concord and Goethe would be our choice. All of these are strong growers, and will hold their leaves well.

Our opinion of the Ives coincides with his. It is a good, healthy grower, and abundant bearer after the third year, but only a grape of third-rate quality, and will not make a wine fit to drink, without the addition of sugar, as its must contains less sugar than the Concord.—Ed.]

COVINGTON, GA., Sept. 20, 1869.

GEORGE HUSMANN:

Dear Sir: There is little doing in this section in the way of vineyards. The business is, however, on the increase. I am doing all I can in the way of contributions to Southern agricultural journals, to bring about this desirable result.

We have not had a general rain

since the 12th of May. The early grape have matured finely, but the Scuppernong, owing to the drouth, are small, acid, and many wither and fall off.

There will not be over half a crop of cotton or corn. Forage will also be scarce.

Yours, truly,

A. C. Cook.

P. S.—Please give me in your answer, or through the GRAPE CULTURIST, your opinion of R. d'Heureuse's patent air treatment in fermentation of wine and other beverages. If you have not seen his circular, I will send you one. If it will do what he claims, it will certainly be of great value to wine makers and manufacturers of various beverages.

A. C. C.

[We have had a correspondence with Mr. d'Heureuse, and are inclined to think his method valuable for the speedy ripening and clearing of wines. We hope it will be generally tried throughout the country, and shall be pleased if our friends will report on it through our columns.—Ed.]

WARSAW, ILL., October 7th, 1869.

FRIEND HUSMANN:

The October number of your very valuable journal has arrived, full as ever of very interesting articles. I am sorry it has not proved a pecuniary success the first year, but have no doubt it will grow in size, and the 1,500 subscribers will come, and more. It is true the existence of the CULTURIST is not known enough, and but for a few numbers you had the kindness to send to Rev. Koenike, it would not be known here even now. On the first exhibition of the CULTUR-

ist, Dr. Hay made up a little club, which will no doubt be doubled or tripled at the end of the year. So, go on with the good work, and be assured "time brings roses."

This season was too wet for almost everything, and every kind of crop has suffered except weeds, that look better everywhere than I ever saw them, in vineyards as well as in potato patches. The vines that withstood best were Norton's, Delaware, Concord, Clinton, Herbemont and Hartford. Ives and Cunningham have kept their foliage, look very hardy, and promise well, but are too young here to bear any fruit.

In the September number you speak of the health-promoting qualities of the Concord wine. In that I believe with you and Dr. Dewey. We have an old rule in Germany: "In habitual constipation of the bowels drink white wine; if the reverse is the case, drink red wine." There is nothing of the nature of "*similia similibus*" in this, however. If one bottle is about the rate for an homœopath to consume per day, I would like to know my quantum, for I am an humble believer in "*contraria contrariis*."

I have tile-drained some three acres of vineyard, but not long enough to satisfy myself to go to more expense for the present. What is your advice? It is a heavy outlay. Will it pay in the end? The soil is a heavy, stiff, tenacious clay.

In pruning the grape vine, the rule is, I believe, to wait until the vine has dropped its leaves. Unfortunately, we have in Warsaw mostly Catawba, and those dropped their leaves long ago.

The wood has ripened but very imperfectly in consequence. Would it be advisable to cut away such shanks as have to come off *now*, and thus throw the nutriment into the remaining shoots to develop the fruit buds and harden the wood more perfectly? At this time the stock pushes out some callus yet to close up the pores, and thus protects itself from the wet and decay, which it cannot do a few weeks hence. I have done so this fall, at any rate, and would like to hear your opinion about it.

Yours truly,

W.

[We hardly know what to say about draining, and think it would be best not to plant on any soil that cannot be kept sufficiently dry with surface drainage. Deep *stirring* of the soil, *not inverting*, and careful surface draining, by furrows in each row, has been our practice, and we have found it sufficient. We think you can safely prune away old arms in October. It will certainly not hurt the vine. If allopaths and homœopaths both agree in the health-promoting qualities of wine, it is certainly a strong proof for it.—Ed.]

BUSHBERG, Mo., Sept. 18, 1869.

GEORGE HUSMANN:

Dear Sir: At the Horticultural exhibition at the Skating Rink, on September 8th–10th, we had the opportunity to admire a plate filled with bunches of "Taylor," from Mr. Jas. E. Starr, which were fine, compact, evidently fruiting as perfect as could be wished, and quite different from our own and others we had seen. On our inquiry whether Mr. Starr ascribed his success with this variety to

soil, training or other peculiar causes, we received the annexed interesting letter as a reply. Pray give us your views about the value of the Clinton here. The gall-fly makes us inclined to reject this variety. If any of Arnold's Hybrids flower at the same time as the Clinton, it might be probably advisable to graft or plant *them* between the Taylor.

Yours, &c., I. BUSH & SON.

ELSAIL, Jersey Co., Ill., Sept. 15, 1869.

ISIDOR BUSH & SON:

Gentlemen: Your esteemed favor of the 12th is at hand. In reply, my Taylors are in the second year of bearing. Trained to stakes, spirally; renewal—that is, fruited on last year's growth. They are planted among the Clintons. A few years since I planted about five hundred Clintons. Some failed to live. The next spring Dr. Shroeder, of Bloomington, Ill., sent me some Golden Clinton, which I planted in the vacancies thus made by death of Clintons. These Golden Clintons proved to be Taylors. You have seen the result. Now, let me ask, can we afford to grow Clinton for the sake of growing Taylor? Can we not do better?

Make such use of this as may seem best for public good.

Yours, J. E. STARR.

[We think but very little of the Clinton for *general* culture in Missouri, although we have occasionally found it very fine. Here, it was entirely defoliated by the gall-fly, while at Morrison, just opposite, in the vineyard of Mr. Jacob Rommell, jr., it was perfectly healthy, and yielded largely. We have but little doubt

that it is a good impregnator of the blossoms of the Taylor, and think that one vine among ten Taylors would be enough to bring about the desired result. The question in regard to Arnold's Hybrids we cannot answer, as we have never seen them bloom. Experience will show whether they will bloom at the same time with Taylor.—Ed.]

TAZEWELL C. H., VA., Sept. 22, 1869.

GEORGE HUSMANN:

Dear Sir: I am the owner of a copy of your work on "The Cultivation of the Native Grape." Let that serve as our introduction. I have been giving some attention for the last four years to the grape, not for profit, but for pleasure. I have the Concord, Diana, Isabella, and two unknown varieties, the two latter differing but slightly, the berry of one of them being smaller and sweeter than the other. I could give you no better description of this latter grape than you have given in your description of Norton's Virginia, in the work referred to, except the juice of this grape is a deep, rich purple. I bought my present home in 1863, and found there one vine each of these two varieties. From what I can learn of their history, they were brought from Richmond, Va., about fifteen years ago; were planted near the house, with an eastern exposure, and somewhat shaded by a locust grove near by. In this unfavorable location they failed to fully develop themselves, and consequently attracted but little attention from myself and others. Five years ago I began to propagate both

these varieties from cuttings, in the open air, obtaining from fifty cuttings twenty plants. I was a perfect novice in the business, and have no hesitation in saying that it can be thus propagated as easily as the Concord; in fact, I have had less trouble in propagating this grape than I have had with the Concord. I have known this grape seven years. It has not, during that time, shown the slightest symptoms of disease, and during that time has produced six fine crops. Enclosed you will find some of the skins of this grape. Rub them in your fingers, and observe the deep, rich purple of the juice. The skin is thin, the juice rich, sweet and pleasant, free from all foxy or other unpleasant taste. It starts ten days later and ripens ten days earlier than the Concord. I have not made any wine from this grape, but am satisfied that it is a good wine grape. Admitting Norton's Virginia to be all that you claim for it, I am inclined to the belief that this grape is its equal in all respects, save as a wine grape. In this respect it is yet to be tested. I should be pleased for you to test this grape, and for that purpose will send you a two-year-old plant from a cutting, or a one-year-old layered plant. I can send the plant to the railroad (twenty-five miles away) free of cost. If you will pay express charges from there to your place, direct me how to send, &c.

Yours, respectfully,

A. J. MAY.

P. S.—I enclose you seed from four berries.

M.

[We shall be pleased to test the

grape you speak of. If it propagates readily from cuttings, it is certainly *not* Norton's Virginia, although it may be closely related to it. We shall also plant the seeds, and will report on the plants raised from them in due time.—ED.]

NAUVOO, ILL., Oct. 6, 1869.

GEORGE HUSMANN:

Dear Sir: Well aware that you are a lover of the grape, and determined that wine-making shall succeed in this country, furthermore, that you have an enterprising, go-ahead spirit, quite liberal with those who continually task your kindness,—I take the liberty to request at your hands a great favor: to send me a synopsis of the plan on which you have established the Bluffton Wine Company, together with laws or by-laws which govern the same.

We have here a large number of small vineyardists, whose success has been thus far indifferent. We see looming up at no distant day a powerful rival in the cheap wines of California, and to my mind there is, for us, but one way to mitigate or divert the danger—that is through an association of the local grape interests, which shall cheapen production, and diminish expenses of marketing. I would therefore like to make the attempt to induce our people to form such an association, but am at a loss to know how to present the matter before them. I naturally turn to you for help, and if it is not asking too much, you will much oblige,

Yours, fraternally,

LOUIS MARTIN.

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At the last Annual Fair of the "Lake Shore Grape Growers' Association" this variety was awarded the *first premium*. Dr. Parker, of Ithaca, N. Y., last fall had bunches weighing over one pound each.

This grape was first numbered 22, in Mr. Rogers' collection, but a spurious sort having been sold as this, he changed the number and then gave it a name. Our stock is guaranteed genuine, being derived entirely, through the hands of Mr. Harris and Miss Waring, from Mr. Rogers himself.

I shall furnish superior vines of Salem, for fall planting, at reduced rates, and feel certain that it will now be planted largely in vineyards. Also for sale, *very low*, a large stock of all new and leading varieties, comprising Delaware, Concord, Hartford, Ives, Iona, and the best numbers of Rogers' Hybrids. Also, Eumelan, Martha, and Walter.

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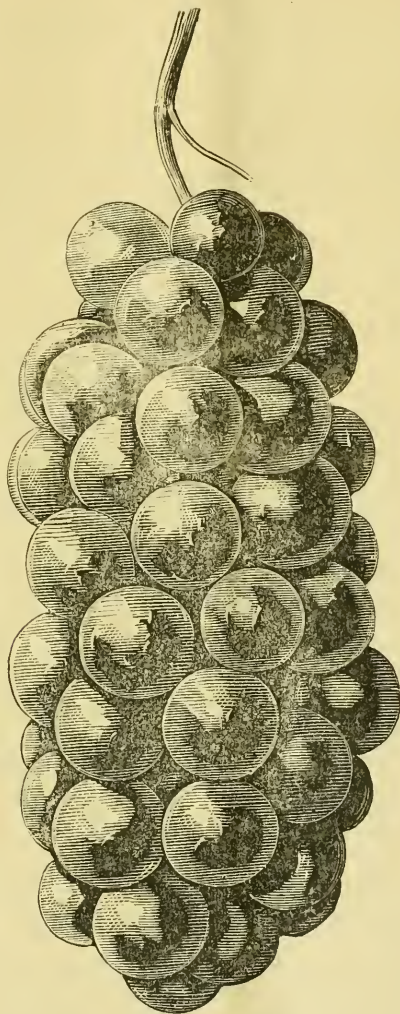
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THE GRAPE CULTURIST.

Vol. I.

DECEMBER, 1869.

No. 12.



CANADA. (ARNOLD'S HYBRID No. 16.)

Same origin as Cornucopia and Autuchon. A hybrid of the Clinton with Black St. Peters. Bunch medium, compact, seldom shouldered; berry medium, black, with blue bloom, juicy, sweet, and good, with little pulp and small seeds; said to be healthy, hardy, and very productive. The leaf shows the Clinton origin, and was but little affected by disease.

DECEMBER.

WORK FOR THE MONTH.

Pruning may still be continued, if not finished in November, cuttings made and stored away. This will also be a good time to manure vineyards, where needed. The best fertilizer we have used is fresh surface soil from the woods, especially where the soil has been washed away from the vines. If animal manures are used, they should be well decomposed, mixed with vegetable matter, etc. We have found but little use for manures here, in the rich virgin soil of our hills, and would prefer a surface dressing of surface soil, leaf mould, etc., to all others.

Trellis can also be repaired and made, and even planting may be continued when the ground is open and works well. Remember that every day's labor now done, is so much gained in spring, when you will have work enough any way. A thorough grape grower should always rather be ahead of his work, than pushed by it, and the slovens, who always have time enough, and spend the fine winter days idling around the stove, or worse still, in bar rooms and country stores, spinning yarns for the edification of the idlers, will find in spring that their work is driving them, and that they cannot make up for lost time.

If you have a cellar full of wine, you will find plenty to do even in bad days, when you can do nothing out of doors,

as this is pre-eminently the month for the first racking. See article on management of wines in November No.

Every vintner should have an outdoor cellar, kept rather moist, for his grapewood, roots, etc. It can be easily made by digging a hole, setting posts inside, with boards behind them to make the walls, then put rafters on the posts, cover them with boards, and throw ground over the whole. With very slight cost, you will thus have an excellent place to keep your grape wood fresh. Prune the vines in fair weather, bundle up the trimmings, and store in your cellar; when bad weather sets in, you can trim and cut them into cuttings and always have work on hand. By thus taking advantage of every day and hour, much work can be done in the winter which is generally done in spring, you need not be driven by your labor, and will feel all the easier and happier for it.

Clearing can also be made, and ground got ready for spring planting. Those who have not tried it do not know how the diligent workman can enjoy the winter evenings around the family hearthstone, when a well spent day lies behind him. He may be tired, but it will be of healthy exercise, and his rest will seem all the sweeter to him, because he knows he has justly earned it.

CAUSES OF FAILURE IN GRAPE GROWING, AGAIN.

MR. EDITOR: Our mutual friend, Mr. Isidor Bush, has contributed to your valuable periodical, the *GRAPE CULTURIST*, three essays on "Causes of Failure in Grape Growing." The two first of these essays contain very valuable advice, and their warnings should be heeded by all those who wish to embark in grape growing, and who are yet inexperienced; but as the last essay, published in the September number, may have a tendency to deter men who are in every respect well fitted to succeed in grape growing, but who may not be in possession of an adequate amount of capital in the opinion of our friend, I deem it not improper to ventilate at least a part of the essay in question.

Mr. Bush introduces to the reader one of his friends, Mr. S., and sets him up as a warning example. Mr. S. had worked in the garden of his father when a boy. Such occupation is considered playing, not working, by men who really know what manual labor is, his studies of horticultural works and periodicals may have given him very good theoretical ideas about horticulture and so on, but for practical purposes, he just knew enough to hitch the horse behind the car.

I propose now to inspect the expenditures of Mr. S. The amount paid for the land and building a decent dwelling house may not be extravagant; but he paid also \$843.75 for stable, barn, and tool house. What use did he have for a barn, when he had no land cleared? Oats and hay keep very well in stacks, and a stable sufficiently

large for his small stock, with room enough above for storing of fodder, etc., would not have cost over \$200. Here are \$352 more for cabin for workmen; this looks a little aristocratic—because good, honest workmen can, with all propriety, sleep with their employer under the same roof.

A considerable amount of roads and walks around the house and stable would have more prudently been postponed until there was a show for revenue.

His tool account is set down with \$269. The price of a common wagon may be \$100, but farming utensils and tools really necessary should not have cost \$169 more.

After accounting for \$312 for furnishing the house, \$1,925 are set down for supplies, clothing, books, and papers; 1866--68, fare to town and all incidental expenses. I have not been very particular and have not scrutinized all expenses very closely, but how this last account, especially the wide range which is allowed for "fare to town and incidental expenses," can be construed into compatibility with close economy, is rather a mystery to men who are accustomed to rough it.

Moreover, it must be inferred, when Mr. S. entered upon his land, that it was uncultivated; clearing was then the main labor for his two hands, but at the same time heavy amounts are noted for clearing. Are these amounts to be included in the wages of the regular hands, or have they been paid for extra labor? If so, it remains to be explained

how Mr. S. employed his hands at all times or how they have employed themselves.

Mr. Bush, in warning inexperienced grape growers against beginning with insufficient means, tells us that Mr. S. had spent \$10,601.50 without coming near reaching success. In conformity with the opinion of Mr. Bush, ten thousand dollars are not an adequate capital; how much, then, is enough to begin with?

The essay of Mr. Bush is very well worth attention and consideration, but

I feel prompted to add the moral to it. Success in grape growing requires the right kind of soil, the right kind of climate and locality, and the right kind of a man also. Mr. S. undoubtedly is a very amiable and respectable gentleman, but his own statements about his management illustrate that he is not fit to start a vineyard from the woods. Respectfully, yours,

G. G.

BLUFFTON, MO.

THAT TAYLOR HYBRID.

FRIEND HUSMANN: As you express a wish to hear further about the hybrid grape of which I wrote you in August last, I will state that my favorable impressions of the grape, as an improvement upon the Taylor, were fully confirmed by the subsequent performance of the vine. Although it was the first year it had ever bloomed, and was only a single cane of the previous year's growth, about six feet high tied to a stake, it bore thirteen bunches of grapes, compact, and handsome; some shouldered, others not. They did not all fully ripen when frost killed the foliage—probably because of the too heavy crop; but the berries were larger than I ever produced on the Taylor, and they were of the peculiar veined or "grizzled" red of the Grizzly Frontignan, its staminate parent, or rather deeper in color. I think its period of ripening will be rather late for this locality. In quality, it seemed much like the Taylor, but more juicy, and better flavored than I have ever had it here. The foliage mildewed but little—indeed less

than any varieties this season, except those of the Concord family—and the berries were free from rot. I think, so far as I can judge from this season's experience, this hybrid will be found valuable in all localities where the Taylor is desirable, with the additional advantages of being more productive, producing compact and uniformly handsome clusters; and with berries of larger size and better flavor. I am strengthened in these opinions, by the vigorous and healthy habits and character of the vine, during the past most unfortunate season for both rot and mildew, that I have ever known.

Yours, most truly,

GEO. W. CAMPBELL.

DELAWARE, Ohio, November, 1869.

[We know friend Campbell is eminently cautious, and therefore place all the more value upon his communication. He is not apt to speak at all about anything until it has been fairly tried, and therefore we have great faith in his hybrid.—ED.]

THE PEGGY GRAPE.

MR. GEORGE HUSMANN :

Dear Sir :—I mail to-day a few grafts of the Peggy Grape. By request, I will try and give a more detailed description of its origin, color, etc. I have received quite a number of letters asking me to give a more detailed description of it.

The Peggy Grape was found twenty-five years ago, in Preston county, West Virginia. It stands against the south side of a mountain (came up accidental), in an old waste field. I have been acquainted with it since that time. I brought wood with me to this State. I am not certain what species it belongs to ; perhaps it comes as near *Labrusca* as any other. Bunch compact, shouldered ; berries medium to large, black ; skin thin ; flesh juicy, sweet, and good ;

pulp quite tender, with very slight traces of foxy flavor ; vine very hardy and vigorous ; leaves thick, large, enduring, light green above, color of *Isabella* beneath ; ripens here 25th August.

P. S.—Will you please publish in *GRAPE CULTURIST*, for the benefit of many readers.

I have had quite a number of applications for grafts of Peggy ; have supplied all, I believe.

Yours, truly,

R. W. GANDY.

TROY, Davis Co. Iowa, November 9, 1869.

[Thanks for the grafts, which arrived safe, and shall have the best of care ; also for the interesting description and history of the Peggy. We shall be glad to hear from it again.—ED.]

CAN GRAPE GROWING BE OVERDONE?

As we have promised to return to this subject again, but have been prevented by press of matter so far, we will now resume, and hope to show to friend Engelmann, and our readers generally, why there is no danger of doing so as yet, and how we must go to work to make it a general, and what is more, a paying business.

First, we will state upon what grounds we base our hopes of being *exporters* of wines before long, instead of *importers*.

If we cast a glance at the present condition of the wine market, and the importations now made, we will find

that by far the greater majority of wines now imported are the common and low grades, the cheap clarets, and light white wines of France, Germany, and Hungary—wines that can be sold here at from \$1.00 to \$1.75 per gallon. Of really choice brands, high priced wines, but few, comparatively, are imported, and those at such extravagant figures that only wealthy men can afford to buy and use them. There is, in fact, a scarcity of really choice wines in Europe, and those wines which are really renowned, either for body, delicacy and quality, are only sold to a favored few

beforehand. With these facts before our eyes, what remains for us to do? First, we must raise, for home consumption, light, cheap wines, which can be sold at lower figures and yet be of better quality than the cheap imported wines. We trust that those familiar with our common Catawbas and Concords will acknowledge that they are cheaper, and at an average, of better quality already than the cheap white and red wines that are now imported. We do not pretend to say that these will be exported, but we think they will soon banish the cheap importations from our markets and take their place. We will show more fully, at the close of this article, how this can be effectually accomplished. Second, we must, for exportation, raise a sufficient quantity of *choice* wines—wines that will equal the Roussillon, the choice Burgundy, Ruedesheimer Berg, Forster Riessling and Traminer, etc. Those who have tasted the choicest of our Norton's Virginia, Cynthiana, Delaware, Taylor, and Ru-lander, will not doubt but that we have abundant material to make them from, and the only reason why they are not in the market already, is that they are not yet produced in sufficient quantities for the consumption of our connoisseurs, nor have the same pains been taken to produce them yet. Let us advance but ten years more, let our vintners take the experiments they have made so far as a basis for future operations, and it will not be long before American wines will claim a high rank, and corresponding prices, even in European markets.

Taking these assertions for granted, the question remains: What must we do to reach these results? What are

the means to be employed to gain these ends? We will look at them from the standpoint of actual experience, and consider each by itself.

1st. We must plant healthy varieties, varieties suited to the soil we cultivate, which will yield sure and abundant returns every year. Of course, every grape grower must determine for himself which varieties will suit his soil and climate best. We, *here*, are satisfied that we can produce at least 1,000 gallons of good red wine a year to the acre of Concord, Ives, Hartford, and Telegraph. Of white wines we can produce the same quantity to the acre of Goethe, Martha, and perhaps Maxatawney. We can afford to sell this at 75 cents a gallon; deducting \$250 for labor, incidental expenses, interest on casks, and other fixtures, would leave a net profit of \$500 to the acre. Even half that amount would pay well. It is true, we must not, like friend Engelmann, rely upon and plant the Catawba—with it, and similar varieties, we would be reckoning without our host—but we must know first what will succeed in our soil, plant none but varieties we can rely upon, and make as good wine from them as can possibly be made. And in order to do this we must go to work on a large scale. We must associate, unite. Let one furnish the capital, the land, etc., another the labor, a third the science; let us make wine in large quantities, and sell it at wholesale, thus reducing expenses and furnishing a better article at less price. It has long been our conviction that most of the wine *making*, at least, will be done by associations, or large capitalists, and only when this is generally understood and followed will this branch

of industry assume the importance to which it is justly entitled.

2d. To attain the latter result, to make so-called *fancy* wines, wines for the connoisseur, which can compete successfully with the best European brands, we must carefully select such locations which are suited to the finer varieties. For these we must look, with few exceptions, to the Aestivialis class, and for location to our sunny southern hillsides, with decomposed limestone soil. There the Norton, Cynthiana, Herbemont, Rulanter, Louisiana, Cunningham, and similar varieties, will alone yield their best results, and friend Engelmann need not expect anything like it on his soil. The Norton's Virginia grown on the prairies of Illinois, and the wine of the same grape grown on the Missouri bluffs, will bear about the same relative merit as the common French clarets when compared with choice Burgundy, and the wines made in the best localities will in future be as much sought after, and realize as high figures, as those of the celebrated localities in Europe. It is true we have not yet gained these results, but they will follow as sure as the nation is progressive. If we look back on the last ten years, and the progress which grape culture and wine making have made during that time, we can form an estimate of what will be done in the future. We have only been experimenting in grape culture during that time; but these experiments are invaluable as a basis for future operations. When, instead of the five and ten gallon casks made of any promising variety heretofore, wine is made by thousands of gallons, we will begin to see the importance of these

experiments; and only then will American wines take that rank in the market and upon the tables of the connoisseurs, as well as upon the board of the daily laborer, which justly belongs to them. The greatest mistakes which so far have been made in American grape culture, may be summed up as follows:

1st. Indiscriminate planting. When the object is merely to produce fruit for the market, it may be true that grapes, at least some varieties, will grow on almost any soil, and produce fair marketable fruit; but for wine it is different, and we predict that in future only the wines from good locations will find a ready sale.

2d. Planting on too large a scale. How often have we heard men say that "they intended to set out a small vineyard of say ten or twenty acres, next spring, to begin with." These innocent souls had no idea of the labor and skill required to manage a vineyard of even five acres. They supposed that it would be as easy to work ten acres of vines as so many acres of corn, and when the vines arrived at the second and third year, they were unable to keep them in order and manage them, and did not realize as much from them as they could have had from two acres, if well managed. Of course, the fruit from such neglected vineyards was not so good, their proprietors did not know how to make and manage their wines, and a product was the result, which could not find, nor did it deserve, ready sale, but only served to give the public a very low estimate of our native wines.

3d. Every small grape grower, almost, was either forced by circumstances, or preferred to make his own wine, without the most necessary require-

ments, cellars, presses, casks, etc., and in most instances, with but a faint idea of the nature of wine, its management, etc. These productions were also sold and drank, often praised by their owners—naturally partial to their own productions—as the best of native wines, when in reality, they were far below average. They served to ruin the reputation and the price of our wines. A rapid change is already taking place in this. The small grape growers find that they will do better, when they can sell all their grapes at fair prices, to dispose of them, than to make the wine themselves; and others, well skilled in wine making, are buying them, and making wine on a large scale everywhere. Every one who has attended the exhibitions of wines for the last five years, must acknowledge that the gain in quality has been fully as great as in quantity. Only men with capital can afford to wait until wines are really fit to sell, and in future, we will not see so much of unclear wines in the market. Only when wine is perfectly clear and quiet, can it be marketed with safety and duly appreciated, as the finest wines will not taste or look well, when the least ferment is left in them.

These are a few of the most apparent mistakes which have been made in growing, making, and marketing our

wines. They will be avoided in future; the making and marketing of our wines will be mostly confined to localities well adapted for that purpose, and to such persons or associations as have abundant means at their disposal to employ the best skill, work by the most approved methods, and plant the most suitable varieties, and also have facilities for marketing in the best condition and to the greatest extent. Then, with sufficiently low prices to bring the lower grades within the reach of every one, and sufficiently *good* wines to satisfy even the daintiest epicure, we will find that American grape growing cannot be overdone, though its vineyards may increase to several millions of acres. But to reach these results we want, not a co-operative system alone, but also a co-operative spirit, free interchange of thought, experience, and ideas. It has been our highest aim to do our share to bring about this desirable end, and for that purpose, more than any other, the GRAPE CULTURIST was brought into existence. Will our readers each do their share to help us, by free correspondence, and by supporting a journal, which we have started to be *their* organ? We have faith enough in the grape growers of the country and their progressive spirit, to think that they will.

EDITOR.

THE CHEMISTRY OF WINE.

BY CHAS. H. FRINGS.

(Continued.)

After an interruption caused by the abundance of more pressing matter, we resume the consideration of the

flavoring substances contained in wine. But one of these remains to be mentioned, which is developed during

fermentation, and which has considerable influence upon the flavor as also upon the taste of wine. This is glycerine, a substance which is used to a great extent in chemical operations, and which, for such purposes, is manufactured from palm oil, the residues of soap factories, etc.

It imparts a peculiar fullness and body to the young wine. But this substance, as well as every other, is dissolved and changed by time and fermentation, although the process is a very slow one, and it then produces an ether which gives a peculiar, sharp flavor to old wines. The more this flavor increases the more will the fullness and smoothness of the wine decrease, and attempts have been made, frequently, to impart more body to old wines by the addition of glycerine. Such experiments should, however, only be made with glycerine which has been purified by repeated distillations, as the common article of commerce generally contains additions which will impart a disagreeable taste to the wine.

We will now consider the changes to which the color of the wine is subjected during fermentation.

The coloring matter contained in the so-called *white* wines is generally only oxydized tannin. It is contained in the skins of the berries, and assumes a brown color through the action of the oxygen of the air. The riper the grape, therefore, or the longer it is exposed to the air after gathering, the darker will be the wine. Of course we arrive at the same results by fermentation on the skins.

The coloring matter of red wines is blue when in an isolated condition,

and becomes red only through the action of the acids. It is closely connected with tannin, which is developed in red wines by fermentation on the husks, stems, and seeds. This connection, however, is not advantageous, as the tannin is very much subject to change and becomes indissoluble, when it will have the effect to *depose* the color in the lees, thus partially discoloring the wine. But other circumstances may also serve to reduce the color. Among these we will especially mention the contact with substances which contain humus, and which have been decomposed by the action of the atmosphere, and especially by the action of heat. They will then discolor the wine. Among these we will name the stems of the grapes, the decomposed skins of the berries, and the storing of the wines in old, badly kept casks.

If the stems or husks of grapes, which have become browned by the influence of heat and air, are fermented with sugar water, the fluid thus produced will discolor red wine. Old, partly decomposed oak wood has the tendency to discolor red wines in the highest degree, and red wines which have been fermented in old oak vats will not be as dark in color as those fermented in fresh, sound vats.

Burnt sugar (caramel) has no influence on the color of wines, which is only affected by humus acid. Even the slow change which tannin effects in this respect is produced by a change of the tannin to humus acid, caused by the slow action of the air, or by a much higher temperature.

(To be continued.)

HOW TO MAKE OILED SILK OR MUSLIN.

My communication on the subject of sending vines by mail has elicited queries as to where the oiled cloth could be had, or how made. To the former question I have no reply; but to the latter will state how we have made a very good article. Once having a hot bed prepared, and no glass to cover it, I had to resort to muslin as a substitute. The bed was sixteen feet long and three and a half feet wide, over which we fixed framework similar to sash, stretched fine thin muslin over it, which we gave a coat of boiled linseed oil, and as soon as dry, gave it another. This was sufficient, and better plants and young vines than were grown under it I never saw. The muslin, or rather oilcloth, would not

have been fit for another season's service in that capacity; but was just the thing to pack plants in to send by mail.

The tough yellow paper used by druggists for tying up goods and drugs, is a first rate thing, with just one thin coat of oil, for small packages, but not strong enough for the larger packages.

Any old worn-out silk or muslin will make a good article for the purpose, when oiled.

A few years since I purchased an old balloon, which came to grief in a storm, which has come very handy, and will supply me for some time to come.

Yours truly,

S. MILLER.

BLUFFTON, Mo., Nov. 20, 1869.

NEW THINGS TURN OUT TO BE OLD ONES.

FRIEND HUSMANN: This season has again proven to me the necessity of trying every new grape before letting it out.

The Caroline, which a friend gave me a few years since, looked so healthy and bore such a strong resemblance to Concord, that we had hopes of something valuable. Now it has fruited, and lo! 'tis Concord itself.

The Comfort, which I thought also had a familiar look about it, turns out Catawba, and is no *Comfort* at all.

Then Wilmington, which I paid two dollars for a few eyes, to a responsible

party in the East, and felt sure that this time I had it correct, turns out just what my former Wilmingtons did, simply Catawba.

My impression now is that there never was such a grape as the one represented by that name. At least I have never seen it, nor have I conversed on the subject with any one who had. It fruited in the East on my place and did not color, so we thought it Wilmington, and it only needed a longer season to make it succeed. Now we find it was only Catawba.

S. MILLER.

SUGGESTIONS ON THE ARRANGEMENT OF GRAPE TRELLIS.

BY JOHN J. WERTH.

The disastrous results of the late rainy season on the grape crop west of the Alleghany Mountains, and the injurious effects of the intense heat of our midsummer sun on some varieties, in any season, in our section, suggest an arrangement of trellis which I am partially adopting to modify the effects of these two unfavorable conditions.

I propose to construct a trellis of the form of a common pediment roof, represented by the letter A—the frame to be composed of rafters 9 feet long, $2\frac{1}{2} \times 4$ inches, 9 feet apart at the base, resting on tarred or otherwise preserved slabs 8×10 inches \times 2 inches thick, and supported by short stout stakes, say 16 inches long, driven into the ground on the outer edge of the slab, to resist the outward pressure until the frame becomes settled—the rafters to be brought together and connected at the apex; first inserting between the mitred faces strips 16 feet long, $4 \times 1\frac{1}{2}$ inches, and bracing each pair of rafters with a cross strip 2 feet from the apex, 3 feet long, 3×1 inch. A pair of these rafters should be set every 8 feet, and the entire row connected by a line of strips 16 feet long, $2\frac{1}{2} \times 1\frac{1}{4}$, and 2 feet from the base. Other strips, or lines of wire, can be placed at such distances, between these two strips, as may be determined by economy and the mode of training decided on.

Having planted my vines in rows 9 feet apart, and 6 feet apart in the rows, alternating two Delaware or Creveling, or other moderate grow-

ers, and one Concord or Clinton, or other rampant growers, I propose to have three lines of strips each side, besides the ridge strip; which will give four lines two feet four inches from center to center. On the lower strip I shall lay down two arms, of the short-jointed varieties, three feet each; and on the second and third strip, four arms of the long jointed varieties, six feet each. The distance of 9 feet between the legs of the trellis is most advisable in reference to the inside pitch, and the steadiness of the structure. It will give 6 feet clear head room, under the collar beams or braces, supposing the ground to be, as it should be, ten inches higher on the line of the vines than in the center between the rows. But it is not important that the rows should be nine feet apart. The proportions recommended will answer as well for rows 8 or 9 or 10 feet apart, as it matters not whether the vines are in a line with or a foot inside or outside of the line of rafters; and it is evident that the vines can be trained on any system that an upright trellis is adapted to.

This structure can be put up with me (sawed timber costing twenty dollars the thousand feet, board measure) at less outlay than a perpendicular trellis of the same superficies; and promises the following advantages:

I hold that the grape rot is not caused so much by the quantity of rain that falls in a given time, as by

the rapid evaporation, under a hot sun, of the moisture from the damp earth, producing what we call a sultry atmosphere. Now, under this arrangement, one-half of the area of the vineyard is shaded during the critical season, and more water sinks into the earth or is carried off by well regulated furrows, and less is evaporated to contribute to a sultry atmosphere. I think, furthermore, that the dripping from overhanging foliage has an unfavorable effect upon the fruit below; and also tends to promote rot. This is almost entirely prevented under this arrangement. Further, the vines will be less exposed to high winds and to scorching suns; and the fruit still more from the latter. And whatever may be true of the European vine, my observation has taught me that our American varieties produce more perfect fruit when it is partially protected from a burning sun at 125° to 130° , as we have it more or less frequently, in our section at least, every summer. Still another advantage is to be found in the protection which the vines are afforded by this arrangement. The inclination of the vine from the cultivator prevents the abrasion of the former by the singletree when operating outside of the trellis; and the inclination of the rafters prevents the too near approach of the horse, and consequently of the implement, when operating inside of the trellis.

Moreover, after the first of July, in our section, the shade over the inside surface will render further cultivation almost unnecessary, by checking the growth of grass and weeds; and will secure for the balance of the

growing season a broad belt of light, permeable soil, through which the roots will revel in delight, while those outside may be suffering under an exhaustive drought.

To sum up, it seems to me that the plan promises advantages which should encourage a trial of it by grape growers in the South, at least where a partial protection of both vine and fruit from a burning sun and a parching drought—if not also from an excess of a sultry atmosphere—is a desirable end.

RICHMOND, VA., October 16, 1869.

[We publish the above communication of our valued correspondent with pleasure, because we wish to have all modes of training discussed, but we hardly believe that it will give satisfactory results, at least here and further North. We have seen the triangular or tripod system tried, which is essentially the same, and never did we see the mildew worse. It has been tried in Pennsylvania already, and with very disastrous results. We would advise even our friend to "try it sparingly and in small doses." We think the roofing system, as tried by our friend Wm. Saunders, at the Experimental Gardens in Washington, not more expensive in its construction, and a much better preventative against the mildew. But the best preventative is early and close pinching of the fruit-bearing shoots, and to lead the young canes up to the upper wire so that they do not interfere, with their rank foliage, with thorough ventilation of the fruit.

His idea of intermingling the Delaware, Alvey, etc., slow growing vari-

eties with tender foliage, with the strong, healthy growers, is a good one. We think by planting, say two Delawares and one Concord or Ives

alternately, and letting the canes of the Concord overshadow the fruit of the Delaware, the disastrous sunscald could be avoided.—Ed.]

GLEANINGS AND CURIOSITIES OF GRAPE LITERATURE.

Layers of grape vines may now be made with good prospects of success; and if you find it more convenient to procure cuttings at the end of this month than in spring, you may plant them; but it will be necessary to cover them lightly with straw, leaves, or some other light covering during winter, or many of them will fail to live. Though these plants are extremely hardy when once established, they are rather tender in their infancy, and every advantage of season ought to be afforded them, especially where winters are sometimes very severe. We are not in favor of pruning grape vines before winter, but, at any rate, never prune in frosty weather, nor when a frost is expected. In pruning, always cut upwards, and in a sloping direction. Always leave an inch of blank wood beyond a terminal bud. In cutting out an old branch, prune it even with the parent limb, that the wound may heal quickly. Let the general autumn pruning take place as soon after the 1st of October as the gathering of the fruit will permit. Never prune in the months of April or May in our locality here; pruning in either of these months causes bleeding, and occasions thereby a wasteful and injurious expenditure of sap. Use a very sharp pruning knife, if possible almost as sharp as a razor.

Prune to make enough fruit shoots, so as to make plenty of fruit, and enough wood not to be too much overbalanced by the roots in our climate of, often, close, sultry, damp, or wet weather.

[We copy the above from the October number of the *Ruralist*, one of our exchanges, published at Cincinnati, and would like to know how much wiser our readers feel themselves *after* its perusal than *before*? We confess that to us it appears as if it would make "confusion worse confounded." Let us look at it a little closer. "Layers of grape vines may now be made with good prospects of success." *What* layers, we would like to know? To fill vacancies in the vineyard, or for propagating? If the latter, it would seem to be a rather strange time in October. Planting cuttings in fall has proved a complete failure with us, unless they were mulched very heavily; not because the cuttings are *tender*, but because the action of the frost lifts them out of the ground, or as the familiar phrase is, they "heave." "We are not in favor of pruning grape vines before winter," and "let the general autumn pruning take place as soon after the first of October as the gathering of the fruit will permit," would not seem to harmonize very well, if we can un-

derstand English, for one term we consider identical with the other, and if that is the case, we are told in the same breath almost, to do a thing and *not* to do it. "Never prune in frosty weather, nor when a frost is expected;" and again, "never prune in April or May." Will the writer please tell us, when is the time between October and April, when it is neither "frosty, nor frost can be expected?" "In pruning, always cut upwards, and in a sloping direction." We would like to know how a sloping cut can be made, without one side of the cut being higher than the other, consequently upwards? "Always leave an inch of blank wood beyond a terminal bud," and "use a very sharp pruning knife, if possible as sharp as a razor." Why should the knife be so very sharp, when he leaves an *exact* inch of wood beyond the bud, which as he *ought* to know, if he does not, dies off; and to *us* it makes very little difference, whether a cut on a *dead* vine has a rough or smooth edge. But enough of this, we say; it is merely to show our readers what they can sometimes find in the vineyard columns of otherwise creditable agricultural journals.

"A NEW METHOD TO PROPAGATE VINES FROM EYES"

has produced very favorable results. By this method at least three years' time is saved, and grape vine nurseries are superfluous. The sowing is done with detached eyes. You can thereby propagate the same improved varieties you may wish, and need not wait longer for a crop than one year and a half. Every vine furnishes as

many new plants as it has healthy eyes or buds. They are cut about one-sixth of an inch above the bud and about as far below it, so that you have pieces of about half an inch with the eye attached to the middle. They are cut in the fall, and preserved in a cellar during winter. In February, the eyes are sown in drills, about two to three inches deep and six inches apart, in good garden soil, covered with rotten manure, occasionally watered during dry weather, and the ground loosened and stirred occasionally."

[We translate this precious scrap from No. 22 of *Gerherd's Farmer Zeitung*, a journal published at New York in the German language. Here, kind readers, you have propagation in a nut-shell, and of course you will hasten to try it on your Nortons, Cynthiana, and similar varieties, which have given us dull plodders in the vineyard so much trouble, and we expect a complete revolution in American grape growing from this great discovery of the age. We always thought we lived in a progressive age, and tried to keep up with it, but we confess ourselves dead-beat by this modern discovery. We are glad to know, however, that you can have the fruits of your labor within so short a period, and right from your garden beds. We hope the inventor has applied for a patent, and advise you to buy it at once. Truly, this nineteenth century brings forth some extremely fast men.]

COVERING GRAPES IN WINTER.

In this latitude and much farther north, the covering of vines is all a

most infernal humbug. The men who advocate it are generally found to be growing, and attempting to introduce, the poor, sickly seedlings of foreigners that *have* to be covered to live through the mildest winters. It is these gentlemen who are producing these seedlings and hybrids, that give you all the fine methods of winter protection. "Necessity is the mother of invention." The varieties they grow are too tender for the climate, and they invent patent trellises to lay down; give all manner of new forms of *training*, to make it easy to cover in winter. Our advice is, only grow such kinds as are entirely hardy for Missouri — Concord, Clinton, Delaware, Hartford Prolific, Norton's Virginia, Martha, and a few others, *can be depended upon*; grow them, and never cover the vine; no danger of losing your plants. If you are growing grapes at the west, take western experience and advice. — OZARK. — [From *Colman's Rural World*.

[When we read the above, we were sorry to see that our friend "Ozark" had one of his ill-humored spells on him again, which occasionally lead him so far astray as to "pour out the child with the bath." He must have had a similar spell when commenting on "Bran Bread and Humbugs," and which seem to blind him so that he cannot even see and remember when he contradicts himself. Thus, in the article mentioned, he cautioned the readers of the *Rural World* to "go slow with Martha and a host of others;" now, he advises them to grow it in preference to vines which have to be covered, and says it can be "depended upon."

Now, while we are glad that he has

suddenly grown fond of the Martha, and appreciates also our old-time favorites, we cannot admit his truth nor good nature when he calls covering of *grapes* (*vines*, he means, we suppose) in winter "all a most infernal humbug." Nor can we admit that we belong to those "who are producing these seedlings and hybrids," although we have always, and are yet, advocating winter protection for such varieties as Herbemont, Cunningham, and others of a similar class. We have no seedling out, consequently no "axe to grind." We claim that the Herbemont and Cunningham are anything but "poor, sickly seedlings of foreigners." It is not our custom to call vines sickly which will make twenty-five to thirty feet of healthy growth in a single summer, and produce from twenty to thirty pounds of delicious grapes — grapes of whose excellence Ozark seems not to have any conception. And we further claim that the man who has *the proper soil for them*, so that they will average such a yield for him as they have done for us the last six years, does not know his own interest if he begrudges them the slight labor of covering, at a cost of about ten dollars per acre, and occupies the same ground with Concord and Hartford. Good as they may be, and are, the Herbemont and Cunningham, etc., are much better, and their wine worth at least double the amount, while they will produce the same quantity to the acre. So much for the "infernal humbugs" of Ozark. We hope he will be in better humor next time, and not quite so annihilating in his wrath.—ED.]

LIGHT GREEN GRAPES.

No light-colored or white grape has ever been brought forward with so equally good promise as the

CROTON.—The vine is hardy, vigorous, and, to my own observing knowledge, is as productive as Concord. It sets its berries uniformly to the perfection of each and every bunch, a character that no white or light green hardy grape has yet exhibited.

The Lydia is as rich and sweet, or even more so, than the Croton, but it does not form good bunches as a rule. The Martha is good—quality not equal to the Croton or Lydia, and, although in some localities it fills one-half or more of its bunches fairly, it never can be depended on to give a full crop of fruit, saleable in market; one-half of its bunches must be eaten at home, or go to the wine press.

The Mary is too late for any point north of Missouri, and the vine has so much of diseased Catawba in it (from which it sprung), that disease is part of its constitution.

The Allen's Hybrid and Rebecca are both so mingled with the foreign blood as to render them quite unreliable, except in isolated cases, and growing in light, sandy, loamy soils, where they have succeeded; the labor and care of them makes the fruit cost at least fifteen cents per pound.

The Maxatawny is now hardly to be heard of; and even at the great show in Philadelphia, just passed, it took no position; yet in some localities, in Missouri especially, it is really a fine variety; but in all our Northern States it mildews, and ripens only occasionally.

The Anna is of superior excellence when it can be ripened, but, like Cuyahoga, it matures too late for most locations in the Northern Middle States; and when it goes South exhibits disease, inherited from its parents.

The Autuchon, from Canada, has had great praise given by a mere examination of one or more bunches, grown under high culture and most careful management, but there is nothing to warrant its continuance, or a hope for its originator to base his reputation upon. His Canada, a black grape, will do to talk about for a time yet, but, like all the Rogers numbers, all his other sorts must eventually go to the wall.

There, now, I have said my say, and I wait for somebody to bring me out again.—FRANK AMON.—[*Moore's Rural New Yorker*.

[If that is all you desire, friend Amon, we will try to be the "somebody." We would like to know upon what grounds you place the Croton, an entirely untried white grape, except, perhaps, in the garden or vineyard of its originator, so far above all the other white grapes? We like to see new varieties brought forward to the notice of the public, but we do *not* like to see them extolled above every thing else *before they have had more of a trial throughout the country* than the Croton, of which hardly any one has had any experience except Mr. Underhill himself. We should be much pleased to hear, after five years from now, that it has proved as superior as you claim, but it cannot be tested fully *before that time*, and an assertion such as you now make looks

at the present date much like humbug, or making capital. *You* may be perfectly honest in your convictions, but it behooves the public to be very cautious, and it is *our duty*, though sometimes not a pleasant one, to warn them against taking such hasty assertions as testimony.

You are unjustly hard upon the Martha. As to its bearing qualities, we think they have been sufficiently demonstrated; it is productive even to a fault. We do not know of any grape, nor do we believe you know of one, which sets all perfect, large bunches, and the bunches on the Martha are certainly a fair average. We guard against imperfect bunches by pruning long enough, and taking off the small imperfect bunches at the first pinching in June. Thus managed, we can have an abundance of fine perfect bunches upon the Martha, and upon most varieties which are not seriously damaged by rot and mildew.

The Maxatawny, you say, "is now hardly to be heard of." Here it bids fair to become one of the leading grapes, and we predict the time will come when it will be much more "heard of" than it is now. You say

it "took no position" at Philadelphia. Our correspondent "Hipple" seems to think otherwise, and even concludes that "its merits have been strangely overlooked." So think others. Here it proved perfectly healthy in fruit and foliage the last very unfavorable summer.

What you say of the Autuchon may be, with as much justice, said of the Croton. We doubt whether the public have seen as much of the latter even as the former. "Oh, consistency, thou art a jewel."

"All the Rogers' numbers must eventually go to the wall." We do not think so. Some of them have already a *justly* established reputation, and among them one which you have strangely overlooked, although it is as white as many of those you name at the East, the Goethe, or No. 1, which bids fair to be one of the leading grapes for wine and for the table.

Among those you have forgotten are the Cassady, Clara, and Lorain, although each and all may have as good a claim as many of those you mention, and which all *came out* with as good *promise* as your pet, the Croton.—ED.]

THE AIR TREATMENT.

Our wine makers have not yet become alive to the advantages of the d'Heureuse air treatment of wines, partially through the skepticism of human nature, and partially on account of the first cost of the apparatus—two hundred dollars—so that while many would like to experiment

a little first, they do not, as the experiment involves the same cost as the full use of the method. However, a few fire-bellows have been resurrected, and a few sober citizens have become "blow-hards," at the end of a rubber hose, in their attempts to test the principle, or to hurry along their

wines in advance of their neighbors.

By accident, we have found ourselves applying the method to a cask of wine when we least expected to, and hasten to inform *the world* how it can be done.

Drive a straight faucet into the cask, as for drawing off wine, slip a piece of rubber hose on the faucet and have a plug for the end; now, with the plug in the end of the hose, turn the faucet "on," and the air confined in the hose slowly bubbles up through the wine; repeat by shutting off at the faucet, and letting the wine out of the hose into a bucket at hand for the purpose, plugging it up again and letting the air up as before. If the hose is a full length piece, it is presumed that it contains air enough for one application.

This way of applying the method

can be further extended by having a small, perforated copper tube soldered to the faucet, running into the cask its length, and inclined upwards.

With casks all provided with faucets, we believe a man with hose in hand can introduce the air as expeditiously as with an air-pump, which, we presume, is the apparatus the inventor has for sale.

Of course, whoever applies air to his wine by injectment, whether by this means or any other, becomes liable to the inventor for his royalty of one cent per gallon on wine thus treated, and if this invention is as valuable as it is believed to be, we for one would be the last to defraud him of this trifling consideration.

D. W. T.

HERMANN, Mo., November, 1869.

[An excellent hint. Please let us know the result of your experiments.—ED.]

NOTES ON THE NOVEMBER CULTURIST.

BY JOHN J. WERTH.

PRUNING THE VINE.—The editorial under this head should be not simply read, but carefully studied by all cultivators of the vine of limited experience. It is worth a years' subscription to all such. More sound, practical advice, on the subject of pruning, is rarely met with in so few words. "Do not go to work like an automaton, without forethought, nor employ any one who is not willing to think while he works." This wise injunction

might well be posted at the entrance of many vineyards. If I were to name the one obstacle which presents the greatest obstruction to success in the culture of the vine, it would be the pernicious practice of enforcing one rigid system upon every variety, without the least consultation of their widely different habits. Congress might as well dictate one size of shoes only for the army. Let the new beginner, and the old practitioner

er also, read, ponder, and inwardly digest all that this article contains, and they will find their profit in it.

REPORTS ON GRAPES.—Full of instruction, teaching us all very plainly and forcibly that, while it may be well to "prove all things" cautiously, it is wise to "hold fast that which is good." We must be content to rely, chiefly, on the few varieties that withstand disease in all seasons, and subject all others to a full probation, *on a very limited scale*, until they shall establish an undeniable claim to be admitted to the preferred list.

Another suggestion is presented by this record of disaster: the policy of instituting, everywhere, experiments with the view of discovering some alleviation, if not remedy, for the extensive disease of our cultivated grapes.

Should vines ever be planted in deep holes, however shallow the roots may be buried?

[We think not, as the holes will form so many water wells, where the water is bound to remain and stagnate.—Ed.]

Is deep trenching judicious? Are not our grapes fruited too near the ground, thus subjecting them to the greatest possible influence of the sultry atmosphere, resulting from a very hot sun immediately succeeding a heavy rain, even of short duration? While under draining is indispensable, is there sufficient attention given to surface draining, by keeping the beds well ridged up to the line of the trellis, and the water furrows at all times well opened to a point of discharge? And in the all important matter of pruning, do we not, many of us, induce

a plethoric, and, therefore, an unhealthy growth, by restricting the "base of operations" in short pruning the rampant growers? Would we not get more pounds of fruit, and secure better health to the vines, by leaving six eyes to produce twelve bunches, than by cutting back to force eyes for twelve bunches?

[Undoubtedly so; see article on "pruning the vine."—Ed.]

Much, very much, seems to me to depend on the correct solution of these questions, and I trust that our grape growers, everywhere, will institute experiments tending to such solution. In the very interesting correspondence, Mr. Miller is made by the printer to recommend "Rogers' No. 10," as "a noble substitute for the Catawba," instead of Rogers, No. 1, (Goethe), as Mr. M., of course, wrote. So Mr. Hart is made to refer to me as Mr. Weith, and also to represent a single Alvey vine, planted in 1868, as producing 1,500 to 2,000 perfect bunches this season, instead of 150 to 200, as it was no doubt written.

[The printer was right in this instance. See Mr. Hart's note in December number.—Ed.]

GRAFTING VINES.—Mr. Allaire asks if grape vines can be grafted and transplanted at the same time. I have succeeded rather better by that mode than otherwise. My first attempt, thirty-three years ago, was with sixty-three wild roots, dug from the hedges in April, grafted and planted the same day. Out of this number, only six failed to stand, the balance growing off vigorously, and all bearing well the next year.

THE RESULT OF THE GRAPE CROP AT BLUFFTON.

We have just finished summing up our books, and find the result from about 12 acres, most of them in their third summer, or first-bearing year, to foot up to 43,575 lbs., or a little over 3,500 lbs. to the acre. Of these, the proportions are as follows :

Nortons's Virginia	5½ acres	22,438 pounds,
or a little over 4,000 lbs. average.		
Concord	4½ acres	17,363 pounds,
or a little below 4,000 lbs. average.		
Clinton	½ acre	1,169 pounds.
Hartford and Ives	½ acre	741 pounds.
Delaware	½ acre	1,491 pounds.
Assorted varieties	½ acre	579 pounds.
	12	43,575

In some instances the yield was truly enormous ; thus, one of our tenants, a Mr. Boatwright, who occupies a lease in the Missouri Bottom, had an acre of Nortons, and half an acre of Concords, bearing their first crop, the third summer after planting. From these he gathered 6,468 lbs. of Nortons, and 3,572 lbs. of Concords. One of his Concord vines, of which he weighed the grapes separately, produced 45½ lbs. Here, as at Hermann, the Concord overran the estimation made of it the first part of the season, while the Nortons fell below the anticipations entertained. In this it differed from the vintage of 1865, otherwise very similar, when the yield in *must* far exceeded our antici-

pations, while in *quality* it fell far below the product of this season, the must of '65 only ranging from 70° to 80°, while this season it ranged from 94° to 104°. The berries contained but little juice this season, while they were remarkably juicy in 1865.

All in all, when we take into account the age of the vines, an age at which we have seldom seen Norton's Virginia produce even half a crop, and the unfavorable season, we have abundant cause for satisfaction, and we can look forward with hope and pride to the vintages of the next and following seasons. In 1870, we shall have something like 30 acres bearing, and the robust growth of the vines certainly promises an even better yield than this year. We hope much from the Goethe (Rogers' Hybrid No. 1), of which we shall have about 2,000 vines bearing ; and think we can report on a good many of our favorites next season. Our young winés, all made under our personal supervision, are doing well, and we hope to have them in a drinkable condition very soon.

Will our friends also report the average crops of their vineyards, and thus give the grape-growing public an insight and estimate of the grape crop ? We shall be happy to publish them.

From the American Entomologist.

INSECTS INJURIOUS TO THE GRAPE VINE.

THE ACHEMON SPHINX.

(*Philampelus achemon*, Drury.)

We herewith represent another large grape vine-feeding insect, belonging to the great *Sphinx* family, and which may be popularly known as the Achemon

Sphinx. It has been found in almost every State where the grape is cultivated, and also occurs in Canada. It feeds on the American Ivy (*Ampelopsis quinquefolia*) with as much relish as on the grape vine, and seems to show no

[Fig. 1.]



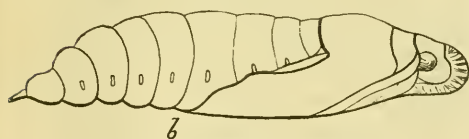
a

Colors—Green, yellow and brown.

preference for any of the different varieties of the latter. It is, however, worthy of remark, that both its food-plants belong to the same botanical family.

The full grown larva (Fig. 1 a) is

[Fig. 2.]



b

Color—Brown.

when at rest the two last mentioned segments are partly withdrawn into the third as shown in our figure. The young larva is green, with a long slender reddish horn rising from the eleventh segment and curving over the back, and though we have found full grown specimens that were equally as green as the younger ones, they more generally assume a pale straw or reddish-brown color, and the long recurved horn is invariably replaced by a highly polished lenticular tubercle. The descriptions extant of this worm are quite brief and incomplete. The specimen from which our drawing was made, was of a pale straw color which deepened at the sides and finally merged into a rich vandyke-brown. A line of a *feuille morte* brown, deep and distinct on the anterior part, but indistinct and almost effaced on the posterior part of each segment, ran along

usually found during the latter part of August and fore part of September. It measures about $3\frac{1}{2}$ inches when crawling, which operation is effected by a series of sudden jerks. The third segment is the largest, the second but half its size and the first still smaller, and

the back and another line of the same color continuous, and with its upper edge fading gradually, extended along each side. The six scalloped spots were cream-colored; the head, thoracic seg-

ments and breathing-holes inclined to flesh-color, and the prolegs and caudal plate were deep brown. The worm is covered more or less with minute spots which are dark on the back but light

[Fig. 3.]



Colors—Pink, gray and brown.

and annulated at the sides, while there are from six to eight transverse wrinkles on all but the thoracic and caudal segments.

The color of the worm, when about to transform, is often of a most beautiful pink or crimson. The chrysalis (Fig. 2 *b*) is formed within a smooth cavity under ground. It is of a dark shiny mahogany-brown color, shagreened or roughened, especially at the anterior edge of the segments on the back.

Unlike the Hog-caterpillar of the vine, described in our last, this insect is everywhere single-brooded, the chrysalis remaining in the ground through the fall, winter and spring months, and producing the moth towards the latter part of June. We rather incline to believe however that there may be exceptions to the rule in southerly latitudes, and that in

such latitudes it may sometimes be double-brooded; for we have known the moth to issue near St. Louis during the first days of August, and have this very year found two worms in the same locality as late as the 25th of October, neither of which was quite full grown, though the leaves on the vines upon which they were found had almost all fallen.

In Rock Island county, in North Illinois, out of three larvæ that we had in our breeding-cages in 1868, every one of them developed into the moth state in the first few weeks of the August of the same year; and we heard several years ago of one larva developing the same season in the adjoining county of Henry.

Apparently such premature development of *Sphinx* moths is a well-known occurrence among the different Euro-

pean species. For Chas. Darwin remarks that "a number of moths, especially *Sphinx* moths, when hatched in the autumn out of their proper season, are completely barren; though the fact of their barrenness is still involved in some obscurity."

The moth (Fig. 3 c) is of a brown-gray color variegated with light brown, and with the dark spots, shown in our figure, deep brown. The hind wings are pink with a dark shade across the middle, still darker spots below this shade, and a broad gray border behind.

We once had an excellent opportunity of observing how it bursts open the chry-

salis shell, for while we were examining a chrysalis, the moth emerged. By a few sudden jerks of the head, but more especially by friction with the knees of the middle pair of legs, it severed and ruptured the thin chrysalis shell, and the very moment the anus touched the ruptured end, the creamy fluid usually voided by newly-hatched moths was discharged.

We have never found any parasite attacking this species, but its solitary habit and large size make it a conspicuous object, and it is easily controlled by hand, whenever it becomes unduly numerous upon the grape vine.

EDITORS' LETTER BOX.

WASHINGTON, Ark., October 17, 1869.

DOCTOR:

I had to-day at dinner a small decanter of wine—pure, without the addition of sugar, spirits, or water—pressed from a portion of the box of grapes you sent me some weeks ago. Of course I could not expect a *good* wine from any grapes made in so small a quantity and with so few conveniences. I expected only indications of what it might be under favorable treatment and in greater bulk. For this reason I used nothing with the must, but allowed it to ferment and clear off, which it has done.

The result was a red wine very much resembling claret, and as good as a great deal of claret I have drunk in my time. It was sound, without any acetous fermentation, but with some-

thing of a harsh, astringent taste, by no means disagreeable, which might not appear in wine fermented in larger quantities, and which age would improve. It has good body. On the whole, I am satisfied that it is a wine grape, proper; and valuable in itself if nothing better can be had. In its present condition it might not pay as well nor make as good a wine as its congeners, the Norton's Virginia and the Cynthiana; but its seedlings may have even better qualities than they. Certainly it is a valuable grape as a basis for improvement. I will sow seeds of it, and advise you to do likewise. Heretofore I have sown grape seed early in the spring. This year I am sowing in autumn.

Truly yours,

JNO. R. EAKIN.

HOT SPRINGS, Hot Springs Co., Ark., }
October 21st, 1869. }

To Editors of Grape Culturist, St. Louis, Mo.

Messrs. Editors :—Feeling that the culture and acquaintance of our native grapes may interest you and many of your contributors, I send you a "photo" of two bunches and a vine of clusters of my "native" Ouachita grapes." I also send you Col. Eakin's letter. After having the photographs taken, in compliment to my intelligent friend (who gave us the first lessons, as an author, in grape culture in this State,) I sent him the clusters that he might feast his gaze upon a native growth from a neighboring county in our State. He made his decanter of wine from the original of what I represent to you. They were

dry, too old, and quantity too small for a good test of the quality of wine. In 1860 I made an octave (20 gallons) of claret that was a delightful table wine, a good color, good body, bouquet good, not too acetous and that *original astringency* so readily detected in pure grape wine, (especially claret and port,) that is difficult to imitate alone with the addition of tannin. This grape resembles Norton's Seedling, and with cultivation, I think, will give good promise. I will experiment with several native varieties this year and will report anything of advantage. Hot Springs county, Arkansas, has long attracted the grape culturist for its location for grapes—the variety of native growths and the quality of the same. I purpose to give special attention to our natives. My vineyard will be chiefly composed of Concords, Ives' Seedling, Herbemonts, Norton's Seedlings, and Rogers' Hybrids; some few acres for

experimental use. Please enter me on your lists as a subscriber and send me your last number. Use the within letter of Col. Eakin's and photographs as you may deem proper.

I am yours, respectfully,

GEO. W. LAWRENCE, M. D.

N. B.—I also enclose you a "photo" of a vine of Muscadines in cluster.

G. W. L.

[Thanks for the grafts of eight varieties of Ouachita grapes and your letter. We will report on the grapes in due time.—EDITOR.]

NEW FRANKFORT, SALINE Co., Mo., }
November 16, 1869. }

MESSRS. EDITORS :

In this month's issue I see an article, written by Mr. H. T. Schmidt, of this place, which is correct as far as he describes the locality, etc.; but when he asserts that the only drawback to grape culture here is that "the wine cannot be sold at remunerating rates by the quantity," I think that our friend is mistaken, and must differ from him.

In the year 1867, the time I came here, I recollect Catawba was sold at \$2.50 a gallon; 1868, at from \$1.75 to \$2 per gallon; this year at the same rate, and seems to be advancing. Grapes have been sold from 15 to 20 cents per pound. Enormous prices, I say. What do you think?

In 1868 a Mr. Theis here made \$286 worth of wine from one-fourth of an acre. We would have a great demand for wine if it was any cheaper.

J. B.

[We have tried to put your communication into shape, and trust we have given your meaning. We think,

too, that the prices you mention are too high to sell wines and grapes in *large quantities*; although we also think that Catawba will not pay *very well* even at that price. We must look to Concord, Goethe and Martha for *cheap* wines.—ED.]

FREDERICKSBURG, VA., November 17, 1869.

MESSRS. EDITORS :

Please correct error of some ten years in the age of my favorite *Alvey* vine, noticed in your number for this month.

The yield of "1,500 to 2,000" bunches is "enormous" for mature old age—"monstrous," your readers exclaim, for a "two year old," as the types have it.

This vine was planted in 1858, not 1868, as I am made to say, perhaps by a slip of the pen.

I may add that it left far behind Herbemont, Clinton, Elsenburg, and others, planted at same time, (all on arbors) as to growth of matured wood, quality and quantity of fruit, and exemption from diseases that the grape is heir to.

Yours truly,

WM. T. HART.

[We cheerfully correct the mistake, but cannot help irregularities if our correspondents will not try to write their statements *legible*. Your letters has it '68, as we can prove by manuscript, and we confess it is a "big thing" even for an eleven years old vine. Sometimes the printers make queer errors, and they are occasionally overlooked. Thus, in friend Miller's communication, they call the Goethe Rogers' 10, which is just nine too much. We owe our readers and correspondents apologies for occasional errors, but hope they will console

themselves with the old adage that "mistakes will happen, even in the best regulated families."—ED.]

BALTIMORE, MD., October 25, 1869.

EDITORS GRAPE CULTURIST:

Dear Sirs: The following figures were the result of measuring the must of different grapes at different times, of this season's crop, in my vineyard, showing the correctness of your remark, that the Ives was only relatively the sweetest grape at an early period of the season. The must was filtered, and either by cooling off or by warming up, brought to a temperature of 54° Fahrenheit, and every test repeated :

Sept. 9—Hartford.....	71°	Oechsle.
Concord	76°	"
Ives	81°	"
Sept. 14—Hartford (a great many dried berries)	80°	Oechsle.
Concord.....	79°	"
Sept. 21—Concord	80°	"
25—Concord	82½°	"
25—Rog's No. 4 & 1.	82°	"
29—Ives, from	82° to 83°	"
Oct. 14—Norton's....	110°	"

Thus, while the Ives increased but very little after September 9, the Concord gained every day in weight, and would probably have shown a further increase, had they been left longer on the vines. The Perkins, *after getting ripe*, was as foxy as possible.

Your GRAPE CULTURIST should be on every vintner's table, and no doubt will be. To make it known, is to recommend it.

Yours respectfully,

CHAS. T. SCHMIDT.

[Much obliged for your interesting

report. The must of your grapes weighed remarkably well, and you have every reason to expect a good wine from it. We can only hope your kind wishes will be fulfilled, and shall do our best to deserve the good will and wishes of our readers.—ED.]

GEO. HUSMANN, ESQ. :

Dear Sir: My grapes have done well this season, that is, Concord and Norton's Virginia; the former rotted some on older vines, but averaged eight and one-third pounds to the vine of well-matured grapes. Norton's Virginia had a good crop, without the least disease. Herbe-

mont did not set the fruit well, and gave a light return in consequence. Catawba I have rooted up. Delaware does not succeed well—shall try Maxatawney in its place. I have a number of other leading kinds which will fruit in 1870, and am anxious to see the result. Will try to get up a small club of subscribers here to the CULTURIST for 1870.

Respectfully,

C. T. MALLINCKRODT.

[Thanks for your report, and kind exertions in our behalf. We hope many may follow your example.—ED.]

TO THE GRAPE GROWING PUBLIC.

This number will end the first volume of the GRAPE CULTURIST. Whether it is to be counted among the "permanent institutions" of the land remains for you to decide. It remains for you to say whether the grape growers of the country need a separate organ of their views and experiences, or whether they will be content with the space allotted to them in the horticultural and agricultural journals of the country. As to ourselves, we can only say, that we were, and still are, convinced of the necessity of such an exponent of your views, and we know that hundreds of our most intelligent grape growers concur with us in this.

We have tried hard to make the GRAPE CULTURIST the faithful representative of them; each and all of you have had, we

think, a fair and impartial hearing in our columns, and if we can place any reliance on the many flattering commendations we daily receive, we have succeeded as well as could be expected. We have known no South or North, East or West, but have published all the information we could gather; our proudest and most prominent aim has been to be an exponent of the views of "Our whole country, one and indivisible," as far and wide as the noble grape is cultivated.

It remains for you to say whether it is to continue, and whether you think it in safe hands. If not, the sooner it ceases to exist the better, and we would be the last to stand in the way of any one who can more fittingly fill the editorial chair of a similar Journal than

ourselves. Our aim has been the good of the cause, and we are willing, now and always, to sacrifice personal feeling for its benefit. But, if you think it in safe and competent hands, we also look to you for support. Send in, not alone your own subscriptions, but also additional ones from your friends; for we tell you plainly that we cannot, and will not, sacrifice our money as well as our time as we have had to do the first year. Our circumstances, and the claims of a large family, who look to us for support, will not permit it, and the first number of Vol. II. will not appear unless 1,000 subscriptions at least have been received. The matter will all be carefully prepared, ready for the press, and, if the subscriptions warrant it, the Journal will appear in an enlarged and improved form.

Our business relations with Mr. C. H. Frings have ceased, and we shall

in future conduct the Journal alone, although Mr. Frings will remain one of its contributors, should it be continued.

If the subscriptions should not be sufficient, the money received will be promptly returned by mail by first day of March, 1870.

We have still a large number of complete sets of Vol. I.—January to December—and will furnish them complete at the reduced price of \$1.00. It is thus in your power to make up for the pecuniary loss we have suffered, and at the same time furnish a mass of useful information to your friends, for a trifle. We do not ask this as a *favor*, we trust we can give “value received” for twice the amount, but we ask it as a token of good will and interest in the cause, and trust that we can make as many “fast friends” thereby as we sell copies.

GEORGE HUSMANN.

BLUFFTON, December 24, 1869.

It is our painful duty to announce to our readers the death of Mr. BENJAMIN D. WALSH, State Entomologist of Illinois, and senior editor of the *American Entomologist*, at his residence in Rock Island, Ill., on the 18th of last month, in consequence of an accident, about a week before his death. In walking on the railroad track, near the depot, a train came on him unawares, and crushed his foot so that it had to be amputated. The physicians seem not to have thought it very dan-

gerous, and that he was doing well, but it became apparent that he had sustained internal injuries sufficient to cause his death.

Although not personally acquainted with Mr. WALSH, we always admired his frank and genial writings, and his whole-souled devotion to his favorite pursuit, entomology. His death causes a vacancy which is not easily filled, and is a heavy loss to science and agriculture, as well as to his numerous friends.

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